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I. KEYNOTES

RAMASWAMY R. IYER, WATER: FROM PROBLEMS AND ISSUES TO QUESTIONS OF LAW

1. Introductory

One way of approaching water law studies would be to start by looking at the water laws of various countries (South Africa, Australia, New Zealand, the USA, etc), including international documents such as the Barcelona Convention, the Helsinki Rules of the 1960s, the UN Convention of 1997, judgments of the International Court of Justice, and so on, and undertake a detailed analytical and comparative study of that material. An alternative approach would be to start from divergent perceptions of water, the problems, issues and conflicts that have emerged, the diagnoses and policy prescriptions that have been put forward, and the debates that have taken place in international gatherings, and examine what legal issues arise in these contexts and need further study or research. I propose to adopt the second approach.

At the outset, let me say (a) that my objective is to set forth the questions that need consideration and not to provide answers; (b) that I shall merely signpost the territory, leaving detailed discussion to later sessions of this conference; and (c) that the kind of broad *tour d'horizon* that I am attempting will necessarily include some statements of the elementary and the obvious, or what may seem so to some of you.

I shall base my remarks largely on Indian experience, but I hope that they will have a relevance beyond that context.

2. Nature of Water

Broadly speaking, one encounters three views or perceptions of water. First, there is the view of water as a basic life-support substance, and therefore a basic need and a basic right. In India, the right to (drinking) water is a part of the fundamental right to life through judicial interpretation. In the UN system, water was for long recognized as a human need but not as a human right, but it is now so recognized. There are also the related Millennium Development Goals. The recognition of a certain *right* will of course imply a corresponding *responsibility* on the part of the state and/or civil society.

Secondly, there is the view (of which the World Bank, IMF, ADB, etc, are strong advocates) that water is an economic good, i.e., a commodity like any other, subject to market forces. That view favours a reduction in the role of the state, the growth of water markets, the privatization of water services, economic pricing based on the principle of 'full cost recovery', and so on.

Thirdly, there is a body of opinion (held by civil society groups, NGOs, social activists, and so on) that regards water as a Common Pool Resource to be managed by the community. This view is against both excessive state control and undue corporate intrusion. It also generally favours local action rather than centralization. It rejects the view of water as a tradable commodity and the idea of privatization of water.

There are other aspects or dimensions, such as the historical, cultural, aesthetic, religious, and so on, that I shall not go into here.

It is clear that there are conflicts among the various positions that I have outlined. Is it possible to weave these divergent perceptions of water into some kind of a coherent whole that holds together? That seems highly problematic. Can water be regarded both as a fundamental right and also as a tradable commodity subject to market forces? (Incidentally, a question for consideration would be whether the fundamental right to water should be explicitly stated through a constitutional amendment.) It is clear that the right to water as a part of the right to life cannot be traded in. However, water is also used for economic activity such as agriculture, industry, etc; and we are talking about large quantities here. Big hotels have to contract for large supplies of water for the rooms (drinking, washing, showers, toilets), the kitchens, the laundry, the gardens, the swimming pool, etc; and hotels are obviously commercial establishments. The bottled water and soft drinks industries draw large quantities of raw water from surface water sources or groundwater aquifers, and discharge waste-water into soil, water or the sea. Can we say that the right to water should rank higher than water rights (which are economic or contractual rights); that water for life should take precedence over water for economic/commercial uses; and that water for profit (if that idea is acceptable at all) should not cut into or put at risk water for life? These questions may need substantive discussion from a policy perspective; in the present context I am merely raising the question of the legal implications of the different views and perceptions of water and the possibility or impossibility of integrating and incorporating them in a coherent set of laws.

3. Ownership of Water

That leads us to the question of ownership: who owns water? This divides into three sub-questions regarding the ownership of (a) flowing surface water (rivers, tributaries, and streams); (b) other surface water-bodies (lakes, tanks, ponds); and (c) groundwater. Roughly speaking, ignoring complexities and nuances, there are three broad legal views corresponding to those three divisions. (a) A widely held view is that water (like air) belongs to what is known as the 'negative community', that there is no ownership of flowing water, and that there are only use rights in respect of it. (b) On surface water bodies such as ponds, small lakes, and so on, many hold that these are common pool resources that belong to the community as a whole. Indeed, such a view is often asserted about water in general, as a natural resource. (c) In the case of groundwater, the concept of private property comes into play, because (under Indian law) the ownership of land carries with it the ownership of the water under the land; water is chattel to land.

While the position in respect of groundwater has the backing of formal law, the other two positions are by no means definitive or universal. On flowing water, there is the doctrine of riparian rights, backed by a large number of judicial decisions. Riparian rights may be use rights, but are often claimed as if they were ownership rights. The state for its part tends to claim the ownership of flowing water; such a position is implicit or even explicit in some laws at the State level in India. In the case of small, local surface water bodies, the doctrine of community-ownership of common pool resources is doubtless often advanced and commands a considerable degree of acceptability, but its grounding in formal law is far from clear.

The state has undoubtedly certain responsibilities in relation to water. It has to ensure the non-denial of the fundamental right to water to any citizen or group of citizens; promote fairness and social justice in the use and sharing of water; obviate or resolve conflicts; regulate the use of water from diverse sources, protect water sources and systems and foster

resource-conservation; where necessary, undertake the provision of the ‘water infrastructure’ (to use the language of the World Bank); keep a watchful eye on water-quality; enter into treaties or agreements with neighbouring countries over common river systems; and enact legislation for some of these purposes. In order to enable it to do all this, its role in relation to water has to be defined by law. If the idea of ‘eminent domain’ of the state, which has been questioned by many, were to be abandoned or substantially modified, what shall we put in its place to enable the state to perform its various functions?

One answer is ‘the public trust doctrine’, i.e., the view, stated occasionally in court decisions and argued by some civil society institutions and academics, that water and other natural resources are not owned by the state but held by it in trust for society. This doctrine enables the state to do the various things that it needs to do without claiming ownership or asserting dominance. It is part of the law in some States in the USA.

It is not only the state that has responsibilities. The community or civil society also has to play a part in the achievement of objectives such as fair sharing, justice (inter-group, inter-species, inter-generational), conflict-avoidance, conflict-resolution, resource-conservation, harmony with nature, and so on. The ‘community’ and ‘civil society’ are things that all of us – NGOs, academics, even politicians and governments (but perhaps not many bureaucrats!) – like to talk about; the terms have a certain resonance. Unfortunately, formal law, at least in India, provides little support to them. We must recognize that formal law (as perceived and practised by the state and its institutions) and community initiatives (and the appeal to customary law and civil society institutions) do not go well together. The former is not only not hospitable to the latter, but is often positively hostile. Community initiatives started with the best of intentions and for laudable purposes can unwittingly run counter to the formal law of the statute books. If it is the policy of the state to promote such initiatives, as is often stated, then the formal law will have to be changed to support the role of civil society, and an effort made to harmonize formal law and customary law.

Against that background, several useful and important areas of legal study and research emerge, including the following: the acceptability of the idea of ‘ownership’ of water, and in particular, that of private property in water; whether state ownership of natural resources should be replaced by the public trust doctrine; whether use rights can be made tradable; how responsibilities should be shared among the state, civil society, corporations, public institutions, and individuals, and whether a sound relationship among these can be facilitated by formal law; whether regulation necessarily means state control, and whether the alternative of regulation by the community is feasible; and so on.

As I mentioned at the outset, my purpose is mainly to highlight questions and not offer answers. Without departing from that self-imposed discipline, let me put forward a few points for your consideration.

While the idea of private or even state ownership of water as a natural resource seems to me questionable, the ownership of water is indeed recognized in certain contexts. Speaking subject to correction, I believe that in Islamic law water held by someone in a vessel is owned by that person. I do not know whether by analogy water held in reservoirs behind dams can be said to be owned by the state, or whether water held in storage tanks by a water-supply system (public or private) belongs to that system. However, water-users have to pay for irrigation water from canals, and all of us have to pay the Delhi Jal Board or other similar organization for water supplied to us. Again, we sometimes buy water from private tankers. Does that relationship of supply and payment imply the ownership of water by the supplying

agency? It seems clear that a supplying agency must have water to supply, and some degree of control over that water. However, when the Madhya Pradesh (later Chattisgarh) Government leased out a 20-km length of the river Sheonath to a private corporate body for water-supply purposes, there was an understandable public outcry. The question arises in what contexts the idea of ownership is acceptable, and at what stage or in what forms it ceases to be acceptable, and why. I think that this needs careful study.

Secondly, it seems to me the public trust doctrine must not merely apply as between the state and civil society, but also as between present and future generations, between humanity and other forms of life, and between humanity and Nature in general. I venture to suggest that the doctrine needs to be widened and given an ecological / philosophical underpinning.

Thirdly, all water constitutes a unity, and what we do in relation to one form has its impacts on and consequences for other forms as well. It follows that we cannot have different, fragmented and divergent laws applying to different forms of water, for instance, groundwater and surface water.

However, groundwater presents special problems in India, and let me spend a few minutes on that subject.

4. Groundwater

Under Indian law, the ownership of land carries with it the ownership of the groundwater under it, subject to regulation and control by the state. It has been said that groundwater is attached, like a chattel, to land property, and again that there is no limitation on how much groundwater a particular landowner may draw (Chhatrapati Singh 1991 and 1992). It follows that only those owning land can have rights over groundwater; the landless (including communities, tribal and other, who may have been using certain natural resources for centuries) can have no such rights. Further, this legal position leads to inequities of various kinds. Water markets tend to emerge in the context of groundwater extraction through tubewells and borewells, and they serve some useful purposes, but there are dangers of unsustainable extraction as also of inequitable relationships between sellers and buyers. A rich farmer can install power-driven tubewells or borewells in his land and their operation can make dugwells in the neighbourhood run dry; he can sell water so extracted to his poorer neighbours even though the water may come from a common aquifer running under their lands; and he can deplete the aquifer through excessive exploitation. The easement right makes regulation difficult.

The unregulated extraction of groundwater has caused serious concern in recent years. While irrigation was earlier associated with dams, reservoirs and canals, there was an unforeseen and unplanned explosion of groundwater exploitation from the 1980s onwards, and this has been a significant factor in the increase in agricultural production. While the short-term benefits have been dramatic, the draft on groundwater has now reached alarming proportions. In many parts of the country the aquifers are getting depleted and/or contaminated. There is general agreement that the use of groundwater must be regulated, but with 20 million tubewells, largely privately owned and operated for 'self-supply', i.e., outside the purview of supply systems, public or private, regulation is very difficult. There is a view that with the numbers involved regulation is in fact impossible, and that it is only after this situation has changed to one of a limited number of suppliers catering to a large number of users that regulation would become feasible. That looks like an ideological move towards privatization,

but even if that is not the case, it is a counsel of despair that we cannot afford to accept. Ways and means of making regulation possible and effective will need to be explored.

One possibility is to do away with the easement or property right in groundwater linked to land-ownership, and treat groundwater as CPR. Alternatively, invoking the public trust doctrine, we could argue that groundwater should be held in trust by the state (as mentioned earlier in relation to surface water). What the Supreme Court has to say in the Plachimada case will have a bearing on this. For those in the audience not familiar with that case, let me explain the position briefly. In Plachimada, the Coca Cola Company's (licensed) operations entailed the daily extraction through six powerful borewells of a huge quantity of groundwater (said to have been of the order of 1.5 million litres a day). The villagers in the surrounding areas alleged that there were severe impacts on their wells and other water sources. The panchayat went to the Kerala High Court, and a single-judge bench gave a judgment in favour of the panchayat. In doing so, the Judge invoked the public trust doctrine. He held that water as a natural resource that was essential for life could not be privately owned but must be held by the state in trust for the community. This was briefly celebrated as the people's victory over the giant corporation, but on an appeal, a Division Bench of the Kerala High Court overturned the single-judge order. It rejected the public trust doctrine and affirmed the landowner's ownership of the water under the land. It also accepted the findings of a committee set up by it on the availability of water and allowed the Coca Cola Company to extract 5 lakh litres of water per day. In essence the Division Branch upheld the contractual rights of the Company. Now the case is before the Supreme Court. We must hope that as and when the Supreme Court delivers judgment, the confusion over the ownership of groundwater, the validity of the public trust doctrine under Indian law and its desirability, and the relationship between fundamental rights on the one hand, and easement rights or contractual rights on the other, will be cleared up. While the parties to the dispute must wait for that pronouncement, scholars and researchers are not obliged to wait: they can and must proceed to study and discuss the subject.

5. Trans-Boundary Water Conflicts

In using the term 'trans-boundary water conflicts', my reference is to political boundaries not merely between countries, but also between States or provinces within a country; and by 'water' I mean not merely rivers but also aquifers. Let me mention only three examples to indicate what I have in mind: (i) the India-Pakistan dispute over the Indus waters, resolved through the Indus Waters Treaty 1960; (ii) the Cauvery Dispute between Tamil Nadu and Karnataka as the principal disputants, with Kerala and Pondicherry as parties to the dispute; and (iii) disputes or differences over rivers and aquifers between Israel and neighbouring countries, and between Israel and Palestine. I do not propose to spend much time on such cases for the reason that legal research will not take us very far towards an understanding of these disputes; the factors that make them difficult and intractable are essentially political and psychological and not legal. Laws and principles are available for dealing with such cases. In India, we have article 262 of the Constitution and the Inter-State Water Disputes Act 1956; internationally, there were the Helsinki Rules earlier and now the UN Convention on the Non-Navigational Uses of International Watercourses, passed by the General Assembly in 1997, but not so far ratified by the required number of countries. Broadly speaking, and ignoring differences in terminology and nuances, one may say that the basic principle in all these cases is that of equitable sharing or utilization and the avoidance of ('substantial' or 'significant') harm to the co-riparian. 'Equitability' is of course a vague term that needs to be defined in each case, and this calls for negotiations. Even if the water-sharing principles were

spelt out more elaborately, they would still remain general, and the application in each case would be a matter for negotiation. The disputes tend to become difficult and intractable partly because of upper-riparian insensitivity and/or lower-riparian insecurity, and partly because of poor political relationships between the countries or States concerned. The political and psychological factors involved may be important subjects for study and research, but it may not be in the nature of legal research.

Incidentally, there have been some instances of efforts (with varying degrees of success) to bring the disputing parties together in an endeavour to promote better understanding and explore the possibilities of a settlement. These go by various names such as Multi-Stakeholder Dialogue, Track II approach, etc. These are essentially informal non-official undertakings, but the possibility and desirability of providing some kind of a formal underpinning to such efforts may be worth studying.

6. Pricing

The recognition of a fundamental right (or human right) to water, together with a strong revulsion from the statement that water is an economic good or tradable commodity, often leads some (not all) advocates of these views to the extreme position that water cannot and should not be sold but must be supplied free. At the other extreme is the view that water as an economic good should be priced on economic principles with the objective of moving towards 'full cost recovery'. Neither extreme seems tenable.

In the first place, when we talk about the 'right to water' we are thinking essentially of water as life-support, i.e., water needed for drinking with a minimal addition for cooking, washing and sanitation (but not necessarily flushing toilets); this was what Peter Gleick referred to as Basic Water Requirement or BWR, and he put it at 50 litres per person per day. There is no fundamental right to water for economic uses, such as irrigation, industrial use, recreation, etc.

Secondly, even a fundamental right does not necessarily have to be free. Food is certainly a basic human need, but no one seriously argues that it should be supplied free; people produce or buy their food. What many argue for is a degree of subsidization of food to the poor, until poverty is eliminated and the problem disappears. A similar approach may be called for in the case of water as well.

Thirdly, leaving aside private supplies which will of course have to be paid for by the user, nothing that the state or its agencies provide is really free. The supply of water involves costs (storing, purification, pumping, piping, etc), and if the user does not pay for the service, then the general tax-payer pays.

On the other hand, if water is a basic life-support need and therefore a fundamental right, it follows that no individual or group should be put in the position of being denied this right because of an inability to pay for the water. To describe water as a fundamental right is to imply that it is the responsibility of the state to ensure that no citizen dies of thirst because of the lack of means to pay. One answer (as in South Africa) may be to provide a certain minimum quantum – say 20 or 30 litres per person per day – free to all regardless of their economic status, but there may be other answers.

At the same time, the principle of economic pricing is valid not merely in the case of economic uses such as irrigation or industry, but even in respect of domestic water supply to the relatively more prosperous and of course the rich. There is no reason why the middle and

upper classes should not be charged the full economic price for the water that the public system delivers to them. There is also a case for charging higher rates as the quantum of use goes up, and denying the service beyond a certain level of use, if that is feasible.

Whether it is possible to combine subsidized water supply to the poor, a limited quantum of free water supply to the very poor, full economic pricing to the affluent, penal pricing beyond a certain limit of use, and denial of service beyond a further limit, in a tariff system, is a matter for policy and managerial debate; similarly, where the water supply service has been or is proposed to be privatized, the question of ensuring the non-denial of the basic right to any individual or group will also be a matter for administrative arrangements. However, there is also the question of the kind of law that should provide the underpinning for any such public or private system.

7. Big Projects

I do not wish to spend much time on what the engineers refer to as ‘water resource development’ or WRD projects, because there is no dearth of laws here. While there may be no specific law governing such projects *qua* projects, they do need statutory clearances under the Environment Protection Act (EPA) and the Forest Conservation Act (FCA); if they are located in tribal areas, The Provisions of the Panchayats (Extension to Scheduled Areas) Act 1996 or PESA applies; and the acquisition of land for the projects is done under the Land Acquisition Act. However, the situation is far from satisfactory. Environmental Impact Assessments (EIAs) under the EPA are often poor in quality and lack credibility; public hearings under the Act are mere formalities; no more than lip service is paid to the principle of ‘stakeholder consultation’; PESA is often more honoured in the breach than in the observance; ‘conditional clearances’ under the EPA and the FCA are generally ineffective, as the conditions are not fully complied with, and non-compliance attracts no penalties; the Land Acquisition Act is universally condemned but has not been overhauled yet; the Official Secrets Act, also widely condemned, is still on the statute book; and the Right to Information Act has not yet become fully effective. However, it is not necessary to go into these matters in detail here. The point that is being made is that there are indeed a number of laws applicable to big projects, and that what is needed is their proper enforcement. The current indications do not seem very favourable to enlightened developments. The new National Environment Policy document seeks to relax the rigour of the EPA with a view to making things easier for industrial investment, and particularly foreign private investment. The draft National Rehabilitation Policy 2006 has been extensively criticised as deficient and retrograde in many ways. It appears that the Government of India intends to introduce a National Rehabilitation Act. One hopes that they will first revise the Policy document in the light of all the comments received.

Taking both the environmental and displacement/rehabilitation aspects together, certain important principles need to be adopted and incorporated, such as:

- ‘Least Environmental Impact’ and ‘Minimum Displacement’ as criteria for the selection and approval of projects;
- ‘The Precautionary Principle’ to govern interventions in nature;
- the ‘Rivers Must Flow’ principle, i.e., abstractions and diversions of waters to be governed by the requirement of the maintenance of ecologically desirable flows;

- EIAs to be made truly independent, objective and professional;
- ‘No Forced Displacement’; displacement to be based on free, informed prior consent, and the ‘Rights and Risks’ approach recommended by the World Commission on Dams;
- a statutory clearance for the displacement of people similar to the clearances under the EPA and the FCA;
- an enlightened resettlement and rehabilitation policy and package based on ‘best practice’; project-affected persons to be given statutory rights to a share in the benefits expected from the project for which they are displaced or otherwise affected; an effective grievance redressal machinery to be established; and so on.

All this calls for policy changes, institutional arrangements, and so on, and not necessarily for legal research. However, two laws seem desirable: (a) a National Resettlement and Rehabilitation Act, with a National Rehabilitation Commission to grant clearances under the Act and monitor the processes of displacement, resettlement and rehabilitation; and (b) an Act creating an Authority to administer the EPA (with a transfer of functions from the Ministry of Environment and Forests to the Authority), and to provide a statutory charter to EIAs on the lines of the charters of other professional bodies such as the medical council or the Institute of Chartered Accountants.

8. Other Issues

I have not touched on the pollution and contamination of water sources, mainly because there are laws on the subject and the failure has been in enforcing them.

A very important issue is that of empowering women in relation to water-management and giving them their rightful position in institutions such as WUAs, watershed committees, etc.

Other important issues with legal implications would include the relationship between watershed committees and PRIs; the dubious nature of ‘participation’ in Participatory Irrigation Management schemes; and so on.

Issues of social justice and equity arise in the context of supply of irrigation water in the command areas of projects; the capture of waters by head-reach farmers to the detriment of tail-end farmers; the capture of institutions such as Water Users’ Associations or even watershed committees by the local elite; the phenomenon of water-intensive crops flourishing in an area while there is a scarcity of drinking water in a neighbouring area; aquifers re-charged by rainwater-harvesting by social mobilization in a village being exploited by a rich farmer or industry lower down through power-driven tubewells or borewells; grossly inequitable distribution of water as between the better-off and the poor in urban water-supply systems; and so on.

The use of large quantities of freshwater for the transportation of human waste in urban areas and the huge incidence of waste in every kind of water-use are other matters that need urgent attention.

I do not have the time to go into all these matters here, but am merely drawing your attention to them, as some of them may have legal dimensions.

9. A Water Declaration or Convention?

In conclusion, I want to raise a larger issue for your consideration. Water is a scarce and precious resource, and the indications are that the pressures on that resource are going to increase. There is no doubt that water is going to become a very important matter for the world as a whole, and even more so for some countries. That statement could have been made ten years ago, but the situation is now becoming vastly more complicated because of the factor of climate change, which can no longer be ignored. Extreme economies in the use of water and strenuous efforts at resource-conservation have become urgently necessary; what is called for is a major transformation in our ways of thinking about and dealing with water. Against that background, a question that arises is whether the kind of severe economies in water use that seem called for can be brought about partly through legal compulsion. However, I want to go beyond that and raise two larger questions for your consideration: (i) whether, in India, we need a constitutional declaration on water in the Directive Principles part and in the section on Fundamental Duties; and (ii) whether globally there is need for a Freshwater Convention, and if so, whether the dangers of such a Convention being captured and used to their advantage by the rich and powerful countries and/or by Multi-National Corporations can be avoided. The time available does not permit me to discuss these points; I have to content myself with flagging them for your attention. Thank you.

NIRMAL SENGUPTA, COMMON PROPERTY WATER – A COMPARATIVE PERSPECTIVE

The growing scarcity of water resource, and greatly increased demand has resulted in greater commercialization compelling certain policy redefinitions. Of late, the demands for improved water governance has prompted a reworking of the legal, regulatory, technical and institutional frameworks. This has drawn attention of many international institutions and they are playing increasingly important role in setting up water-related regulatory frameworks. Also, multinational companies have entered into the provision of water services. The workshop theme rightly points out the need to establish a framework in a comparative perspective to envisage the specific impacts of these global designs. Towards this end I bring out some characteristics of the Indian legal system on water. For envisaging the India-specific consequence of the recent reforms one has to take into account these special features of the existing Indian system along with the general global consequences of these reforms.

CRP and Indian Legislation

I will start with the beginning of the modern legal system, for the fundamental features of the original system are still influential. The later initiatives could only build on the fundamentals adding some more special features to the Indian system.

In 1765, the Mughal emperor granted its request and East India Company received its first territorial possession. The later history of the East India Company is not only of trade in merchandise but also of, in fact more of, land revenue extraction. The revenue earning incentive decided their efforts at changing local rules and reforming legal institutions. The private property regime in India, established by the East India Company, was thus qualitatively different from its counterpart in England. In course of time, the British Parliament abolished the monopoly rights of the East India Company, but did not make and substantive change in the revenue system it had established. Essentially, it was the revenue system devised by the East India Company, which existed during independence. The incentive structures created by the Company at the early stages have imparted indelible effect on the development of natural resources the country. Therefore, to understand the Indian situation one has to start from the early colonial period.

The Permanent Settlement was the first major revenue system introduced by the Company. The Settlement could be made without any demarcation of boundaries, without any survey of land, without any attempt to value the land in detail or to record rights. The task was merely to identify a local agent who would deposit the fixed revenue at a fixed time. The system brought little change of pre-existing community institutions. Yest, this long term contract, resulting in political stability under Company rule brought considerable prosperity to many parts of India. But within the Permanent Settlement, the Company earnings were fixed for a hundred years in perpetuity. Very soon the Company officials realised that such a contract deprived the Company of an opportunity of sharing a part of the prosperity consequent upon the establishment of political stability. Therefore, in areas annexed later, in other parts of India, some experiments were undertaken to devise settlement systems in which revenue rates could be revised from time to time. One of these was the *Raiyatwari* system. The main feature that distinguished this system from the zamindari system was that the government did away with the intermediaries and made settlements directly with the actual cultivators. In

course of time the raiyatwari settlement became the predominant settlement system in India. After the independence the Ryotwari settlement model covered the whole country.

The transaction cost for implementation of this alternative was substantial. Even in the very first raiyatwari settlement over a small experimental area, the state had to undertake a survey conducting measurement and assessment of land comprising of nearly 80,000 cultivators. Ryotwari system saw the beginning of the registration system in India, at quite an early date. In that period, and even now, there are not many countries with such an exhaustive land record (Arruñada, 2001). However, the registration system is very weak in establishing rights. One of the major problems of registration system discussed by Western law makers and scholars is how to protect rightful owner against possibilities like existence of unrecorded claims, errors in the public record, or incorrect opinion of an attorney conducting a *title search*. The colonial lawmakers did not bother about adverse possession. One revenue payee was just as good as another.

Under the Permanent Settlement system there were no record of tenants and little concern about the economic system within the jurisdictions of the zamindars. The existing CPR relations did not come under the purview of public law in the Permanent Settlement areas. In the Ryotwari system settlement were made with individual tenants. Immediately during the records of rights preparation, it surfaced that no individual could lay claims on the local tanks, woodlots, grazing grounds. The colonial government declared its ownership over such properties and thus committed itself to their upkeep and maintenance being unable to understand the CPR relations (Sengupta, 1991). In a few years this necessitated the induction of engineers in the Revenue department and ultimately gave rise to the Public Works Department with numerous personnel and considerable expense but with dismal performance. This is the rise of the government as provider model on CPR in India. Lately, the staggering maintenance cost along with poor performance has sent a sense of alarm.

Another distinctive feature of the early colonial land registration was the meaning of property. Revenue earning purpose determined what was to be registered and what not. The agricultural land that could yield revenue was property worth registration with private parties. The rivers, waterbodies, woodlots and grazing grounds, which would not yield any revenue, were not properties. In fact, except water, the rest of these were regarded as 'wasteland' (Brara, 1989), which would cease to be wasted only if the state could promote its cultivation. In a way these were open access public land but only till settled with private parties. But the claims of the state were 'much larger' than the claims of other agents, that is, the pre-eminence of state in deciding land use was implicit (Sengupta, 2005). In the Ryotwari area, settlements of land were made with individual tenants (ryots) against payments of land revenue. Local tanks, woodlots and grazing grounds not producing any revenue, were not settled. Of these, the water resources did not exist in natural state. India had extensive irrigation system, a feature with which the British was not at all familiar. The irrigation works required regular maintenance. Revenue earnings were crucially dependent on the health of the irrigation works. But there was no private party responsible for the maintenance. This fact compelled the state to become a *provider*. In the Permanent Settlement areas such a problem did not arise. Estate owners were registered. But affairs within their domains did not come under the purview of public law for at least a hundred years. Private contracts between zamindars and tenants, misleadingly called customary law, were effective on natural resources, including irrigation systems. Thus there are many CPR in India without records and recognition (viz. Sengupta, 2000; 2001). The extensive tank irrigation systems of erstwhile permanent settlement areas are not recorded. This state of affairs continues even

after modern survey and settlement system was introduced. In the post-independence era, the ignorance of the modern experts and officials have only increased the deficiency.

Some later Acts, Administrative orders and Judicial Awards amended some of the deficiencies and extended partial entitlements to pre-existing users. Specific mentions may be made about the Tenancy Acts, which addressed rights of tenants and village commons.

Community management of water was a cost-effective reality and was acknowledged by the government. Efforts were made to legislate community responsibilities e.g. kudimaramath Act or Compulsory Labour Act (1858). But the rights of communities were never safeguarded by law. The colonial authority was concerned that it will be politically and socially cumbersome to administer English or Western Law to supplant an already complex set of native rules. Therefore, parallel to the enunciation of 'public' law the government had also attempted to define the bases of a 'private' or a 'personal' law of their subjects on their moral and community obligations (Galanter, 1981; Washbrook, 1981). British administrators had worked hard to discover 'customs' and pre-existing norms and record those. This approach suffers from some very serious weaknesses like incomplete coverage, vulgarization of the actual custom, excessive simplification etc. (Scott, 1996). During the colonial era, Indian courts attempted to develop customary laws as a new branch of civil law. However, most of the decisions rendered by the courts in the context of customary laws related to either hereditary offices or religious ceremonies. Though areas like community commons, community conservation and the corresponding traditional resource rights clearly came under the purview of customary rights, these issues were seldom brought before courts for adjudication (Krishnan, 2000; Upadhyay, 2003).

Water Rights

Current water rights system in India is a continuation of the 'pre-eminence of state' doctrine. Over the years only the division of rights between different levels of state have been made. In terms of the standard water rights systems on flowing water, the legislative system of modern India did not grant any kind of right on the basis of prior appropriation. Some people believe that India follows riparian rights system. This is doubtful. The Indian Constitution allocates legislative competence only to state through three lists (Union, State and Concurrent). Water rights of users in India are defined only with respect of irrigation water from government irrigation projects (the Irrigation and Drainage Acts). On natural water users have not been granted any entitlement. The state enjoys pre-eminence in deciding land use. This is the reason why even for starting irrigation projects the government does not need formal acquisition of water rights although land need to be acquired, for 'public purpose'.

In reality, flowing water is appropriated by private users by various means. But the notion of pre-eminence of state on determining its use is so ingrained that no attenuation by law has ever been made on such water. The difference comes out clearly with groundwater situation. Under the Indian Easement Act, 1882 right on groundwater extraction was a part of the land rights. But recently, following groundwater depletion, Groundwater regulations curtail this right. The private right enable individuals to develop groundwater. Community initiative for development of flowing water was, and still is, restrained by absence of community rights. In a rare attempt, when Tarun Bharat Sangh diverted a flowing natural stream, asserting state right was the way of preventing the Sangh. The environmental legislations on pollution of flowing water is a tort law, not a property right legislation (Batra, 2000).

No doubt the increasing water crisis needs fresh ways of water utilization. To facilitate that many de facto and de jure water rights need to be changed. With changing situation newer form of rights are needed. But the change should be for the betterment of the people, not for meeting the interests of some parties. Now that the international institutions and multinational companies are playing increasingly important role in setting up water-related regulatory frameworks as well as in the provision of water services, the water rights situation opens up the vulnerability of people of India. The Constitution does not include right to water as a fundamental right. There is just one bit of weak legislative protection for use of water resources.

Panchayat, or rule of five elders, is an indigenous system of local governance with a very long tradition. However, the modern Panchayati Raj system draws its inspiration from the Gandhian economic vision of village self-sufficiency, not from customary panchayats. The Constitution of India had a Directive Principles (Article 40) recommending constitution of village panchayats as units of local self-government. But this turned out to be one of the most vigorously pursued Principle in India. Several states drafted Acts to comply with the directive. At times, some of the Panchayat Act provisions diluted the primary property act provisions, usually by bringing in several claimants as representatives for the state (viz. Brara, 1989). The 73rd Constitution Amendment succeeded in bringing some uniformity. But the problem of legal pluralism (Benda-Beckmann, 1995; Galanter, 1981) has only increased. After the 73rd Amendment State Governments have enacted Panchayat Acts with necessary powers and authority for local people. The Eleventh Schedule, which lists several natural resource management activities, is an innovation of the 1993 Act. Water is one of the 29 subjects of the Eleventh Schedule. Most States have just reproduced the Eleventh Schedule subjects in appropriate places without adding much substance to that. In turn, the vagueness enables the different levels of panchayats to claim rights of exclusion. The agencies with power to exclude multiplied with other departments like fisheries getting in. These multiple rights created what is now known as anticommons: multiple owners are each endowed with the right to exclude others from effective use of the particular resource and no one has privilege of use (Heller, 1998). In this case the property tend to be underutilized.

Global Designs

Regulatory frameworks drawn by international institutions will be introduced in this context. Until now, we have some limited experience of such reforms. However, that may show the legal consequences. Participatory management in India has some few years of history. The inefficient resource use scene under government and agency management had led to rethinking. That global rethinking on how to rehabilitate common property rights within the primary property law produced the PIM model. Some successes have been achieved in other countries. In India, as yet, success is limited. The departmental objectives in the participatory programmes are narrow. In pursuance of the limited objectives only limited rights have been given to the users. In turn, these organizations are facing considerable pressure from the other government bodies with exclusionary power (Upadhyay, 2002). In contrast, property rights were clearly transferred for the other global design on which India has some experience, the privatization of water resources, for hydropower generation or for drinking water supply. In these cases the rights are formally transferred by the states to private parties. The legal status of private parties is therefore, clear and they may develop the resource as they decide the best. There is not even a clause threatening agencies for their poor performance. In contrast, the PIM model was implemented in India without even partial transfer of rights by the state.

Only state duties were privatized. In many other countries the PIM programmes have culminated in turn over of rights to farmers. Not so in India.

The privatization effort has been criticized on the grounds of poor performance and equity. But this is not the only avenue what deserve to be contested. The past experiences of anticommons and underutilization of resources had led to reform thoughts that pay more attention to the bundle of property rights than on clarity of rights alone. Reforms like groundwater regulation were of this nature. The PIM and the indigenous Panchayati Raj experiences had increased pressure on states for transfer of rights on water resources to communities. This healthy thought is now being relegated to the secondary position in engagement with the privatization debate. This may result in no further improvement in most parts of the country and concentrating only on those parts where global agencies may operate.

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A. RAJAGOPAL & S. JANAKARAJAN, STATE IN PERPLEXITY: THE POLITICS OF WATER RIGHT AND SYSTEM TURNOVER IN TAMILNADU

1. Introduction*

The right over any resource is unwarranted and even superfluous when it is abundant and freely available. This applies to water also. However, certain control mechanisms were found necessary due to certain extreme conditions experienced by people. On the one hand, there were floods and the problem of heavy water logging and drainage; community participation was found necessary to save society from such natural disasters. On the other hand, there were droughts and water scarcity and so there was the need for certain rules and regulations to enable the use of available water more effectively, equitably and efficiently. Thus, in the process of development of the society, water has emerged as one of the most important natural resources to deal with for a better life. Indeed, in recent times, the increasing gap between demand and supply has resulted in several managerial problems such as the allocation, maintenance and prioritizing use of water and the need to resolve conflicts that may crop up in the process of sharing.

Conferring water rights is an important measure and also an institutionalized principle, which regulates water use and conflicts. All laws relating to water and other natural resources became necessary because of the progress attained by human societies, which in turn gave rise to a demand for resources and scarcity conditions. In the process of development, the problem of 'free riders' was also growing; precisely because of these reasons, there was a need for informal rules and regulations, which these have evolved over a long period time. These informal rules and regulations, reflect the socio-economic and political structure of society at any given point of time. These rules were not static but were subject to quite a number of changes. These changes were influenced by factors such as geo-physical and climatic conditions, socio-economic and political conditions and the level of technological development.

Therefore, water rights are basically a certain kind of institutional arrangement, which have emerged over a long period of time in the history of human settlement, in order to enable a society or a user-community to act, interact and to manage a system. This is not to glorify the irrigation institutions that existed in the past. Indeed, the kind of irrigation institutions that were controlled by kings or local chieftains was nothing but hydraulic despotism and reflected very much the local power structure and production relations at any given point of time. Nevertheless, there existed some organized and codified rules and regulations, customs, roles and mores, legislations, notifications etc., which not only defined access to water for a community, but also subsumed all critical functions of water management. And, given that the local power structure led to an unequal access to the means of production, these institutions performed well in protecting the water rights of 'user communities'. In the Indian context, the emergence of colonialism and the formation of the welfare state not only altered the power relations but also contributed to the disintegration of these rights over natural

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resources in particular, water. At the same time, it is not to deny the wisdom that the State has a key role in facilitating water use and in protecting the rights of user communities. Further, in the context of the present water rights debate, it is necessary to distinguish between rights acquired over time (riparian rights), and rights gained due to access to resources. Urban industrialists controlling water resources in rural areas by sinking deep tube wells (much deeper than the existing ones in a village) is a classic case of rights gained due to control over resources.

What are the rights that user communities enjoyed in the past? What is the process by which, these rights have been appropriated by the State? (Chatrapathi Singh calls it, rightly so, ‘the right of a welfare-state’, Sing, 1991). To what extent could the State follow the principle of equity in making water available to all users? Since the prevalence of corruption is one of the biggest problems of a democratically elected welfare State, to what extent are the rights exercised by it efficient and delivering goods to the user-community? The State, given its right to extend cities and towns and to extend irrigation systems in order to bring more and more area under their command, takes away the existing rights of the people. To what extent is it justified? Water rights can also be looked at from the angle of the human rights issue: this is more relevant in a situation in which marginalized people, whose rights have been appropriated, are defenseless and cannot seek justice in a court of law. In this context it is necessary to distinguish between the rights gathered by people over time and rights claimed or seized due to access to resources and due to the nexus with the State (e.g., urban industrialists buying a piece of land in a village, installing deep bore-wells and extracting unlimited groundwater for their industrial use, thereby contributing to the drying up of groundwater in many adjacent wells or urban industries polluting existing water bodies by discharging industrial effluent and thereby depriving farmers of their rights over water which they have enjoyed for many centuries). What is the role of the civil society in all these?

This paper makes an attempt to examine the traditional or customary water rights enjoyed by user communities for many centuries, the strengths and weaknesses of these customary rights, methods by which the State appropriated these rights, problems associated with the management of water by the State, the recent ‘turn-over’ programme of the transfer of water rights to user communities by the State and its policy implications.

2. Traditional or Customary Water Rights

Two types of customary water rights prevailed in India. They were, (a) riparian rights and (b) prior appropriation rights.

The riparian right is a right vested in the owner of a land that is situated near a river, stream or watercourse. The right to use water on an adjacent or upper land was considered as a natural right. Under this system, the right of a lower riparian is protected to the extent of the customary flow of water to them. It was also laid down that interference with such flow is wrong and no riparian owner is entitled to obstruct a public river with a dam. However they are given such right of obstruction only in emergency times like a flood, without creating problems for neighbours. Also it was recognized that an upper riparian has the right to use as much water as possible without diminishing the quantum enjoyed by a lower riparian. If a lower riparian feels that there is a reduction in water availability or flow, he can seek remedial measures in a Court of law. Similarly, a lower riparian does not have right to flood the lands of the upper riparian by building a dam on a river. As regards drainage, an upper riparian has the right to drain excess water through channels without affecting the lower riparian’s lands. It is to be noted that all riparian rights are applicable to only natural water

sources and not to artificial canal or watercourses. Riparian rights continue to have relevance even today. They have not been lost in the process of development of the society.

The limitation of the doctrine of riparian rights began to be felt when there was an expansion of the original (initial) command area. To solve the problems arising out of such an expansion, the government resorted to certain administrative measures on the basis of the prior appropriation doctrine. Thus, the State modified the riparian rights doctrine and gave more importance to prior appropriation doctrine in India. Accordingly, the rule of 'first in time, first in use' was adopted which later became law. Thus the concept of 'time of appropriation' became the basis for the determination of water rights in a system. Under this doctrine, individual States developed administrative regulations, as mentioned earlier, for appropriating water under major water distribution systems. However, some States recognized both riparian and prior appropriation rights, which have resulted in complications in the allocation of water and the interpretation of water rights.

Water rights go hand in hand with the degree of access over resources, cultural practices, customs, formal and informal rules over access to use of water by individuals/groups/communities /states and nations. They are not theoretical abstractions but refer to concrete procedures and certain formalities. These rights also reflect the relative power of individuals and groups to use water or transfer rights over water in any given situation.

The rights over water, which evolved over a long period of time, are called customary or traditional water rights. Such water rights are considered important not only in India, but also in many other parts of the world (FAO, 1979, Vol.1). In England for instance, the right to use water belongs to the occupier of the land (i.e) riparian rights. In Belgium, water rights are vested with landowners, which can be inherited; whereas in France, Israel and Italy, water rights can be vested with individuals by a license. In Africa, there are limited rights to the use of water without state intervention. In Benin and Burundi water rights are generally conferred by customs. Mauritius and Kenya provide for access to water for domestic use without administrative sanction (FAO 1979 Vol.II). According to Singh, the right over water has existed in ancient laws in many countries and they still continue to exist as customary laws. Generally customary law is based on the community principle that land and water belong to the local community and therefore cannot be subject to individual rights of ownership or use except by virtue of membership in the community. Thus, in many countries water rights are based upon customary rights.

2.1 Practice of Traditional or Customary Water Rights in India

The technology of water use for agriculture has developed over a period of many centuries and its history has run parallel with the patterns of human settlement and formation of village societies (Steward, J.H. 1955). Water rights, therefore, are not something, which were given to water users but were gained or acquired by them over a very long period of time. These are called customary rights, which were recognized by Hindu laws and later by English laws. Though customary laws varied from state to state, they had some common ground such as community rights and informal arrangements. These customary laws, according to Singh, had many advantages compared to statutory rights. 'Customary law has been dynamic more in tune with the needs of the people than dogmatic about certain fixed notions of territory or ownership right.... Limitless to space and quality, they are broader in approach than the legal systems' (Singh 1991: pp.67).

In India, the Easement Act 1832 specifically recognized the customary rights of people. Thus, as per the custom and convention, people were entitled to tap water, which (due to gravity) flows through an upper plot or another person's land (Singh, 1991). However, this Act was not applicable to ground water. In the context of Tamilnadu, in particular tank and traditional canal irrigated areas, the customary rights over water were well codified much before the British period. The British Government approved these codified laws (which were locally called *mamulnamas*), and printed them as a document as early as 1813.

2.2 Customary Water Rights in Tamilnadu

Historically, a community of water users undertook all the critical functions of water management including the construction of small diversion weirs and canal networks. Such water user communities were called '*samudhayam*' in the case of canal irrigated villages and '*Nadu*' for tank and dry villages. The water rights enjoyed by a community were indeed gained by it due to its hard work in construction as well as in maintenance. The organizational structure for carrying out the responsibilities of traditional water institutions operated at two levels: the first was of a supervisory nature, called *kavaimaniyam* or *nattamai* or *karaikarar*, who performed the role of an enforcing authority of rules and regulations concerning water management. The second one, namely, *neerkatti* or *neerpaichi* or *kambakkaran* or *kammukkutti*, was more of a menial nature, which involved hard labour. While the former is an honorary position, the community at the end of every season or year paid the latter category in kind. In many parts of the country, these positions were held on a hereditary basis.

The traditional irrigation systems, which prevailed in Tamilnadu and in other parts of India as well, reflected very well the rights enjoyed by village societies over water and other natural resources. The community had complete control and access over water resources within their jurisdiction. The system was functioning well and there existed well laid out rules and regulations to undertake all critical functions of water management such as system maintenance, water sharing in particular, during times of scarcity, conflict resolution, collection of penalty for non-participation in the maintenance work and so forth. There existed a hierarchy of functionaries to undertake all these activities. The caste structure played a crucial role in preserving and in allocating responsibilities among various functionaries. For instance, a farmer from a high caste invariably held the position of a canal manager and the position of irrigation workers (menials) was held only by people from scheduled castes. Nevertheless, the traditional irrigation institution had an enforcement mechanism, which facilitated a smooth functioning of water control systems.

3. Decline of Kudimaramath and Attempts to Revive it Under British Rule

The voluntary community labour or what was called the *kudimaramath* system began to slacken from around the middle of the 19th century. The Colonial Government was quick in recognizing all the local customs and conventions and the acquired water rights of people. Indeed, they tried to protect the customary rights of people through appropriate legal provisions. The village settlements carried out by the British administration in different parts of the country in the second half of the 19th century had, in particular, recognized the *Kudimaramath* system (system of community labour for maintenance) and its associated rules and regulations for water management. However, the *Kudimaramath* system, which worked well until the beginning of the British rule, started declining from around the middle of the 19th century. The Report of the Public Works Commission of 1852 stated that there

was not much of voluntary community labour and it reported that in all districts labour was more or less forced (Sarada Raju, 1942). The main reason attributed to the decline was the disintegration of village society itself and a certain repressive imposition of land tax. The Irrigation Commission 1901 pointed out factions, absentee landlordism and the decline in the power of the village headman as reasons for the decline of the *Kudimaramath* system.

Realizing the importance of maintaining the *Kudimaramath* system, the British took a number of steps for its revival; otherwise, the administration feared a heavy financial burden with the maintenance of irrigation systems. Therefore, the Colonial Government resorted to certain legal measures with a view to reviving the community labour system in the Madras Presidency. The first attempt in this regard was made in 1855, when the then collector of Thanjavur prepared an Irrigation Bill. The purpose of the Bill was to prevent willful damage to irrigation structures. However, on the grounds that the Bill was not comprehensive, the Board of Revenue rejected it. The next attempt was in 1858, when an act called the Madras Compulsory Labour Act was passed. This Act legalized compulsory labour for certain aspects of maintenance, and also provided provision for penalizing those who did not participate in the community labour. However, this also did not result in any betterment of the *Kudimaramath* system. Further, the very essence of the principles underlying the voluntary community labour was lost in this legislation. Hence, the traditional irrigation systems were in a process of decay. At the same time the Government failed to provide the required relief measures during the successive famines witnessed in the later part of the 19th century. The main reason attributed for the non-working of this Act was the migration of labour to countries such as Sri Lanka, Burma, Malaysia, Singapore and Africa due to severe famine conditions.

Therefore, fresh legislations were recommended by the Famine Commission of 1878, and the Irrigation Commission of 1901 (Baliga, 1960). Subsequently, the Government appointed a committee on *Kudimaramath* and Irrigation. The Committee in its report recommended a number of steps for the revival of the *Kudimaramath* system and also prepared a draft bill on *Kudimaramath*. The Bill was approved by the Government of India but came under serious criticism. The Bill was also strongly opposed by the public on the grounds that it was very stringent and gave a lot of powers to canal officers. Finally, the Bill was dropped.

4. Appropriation of people's rights by the Government

The need for legislation on irrigation and water rights, however, was soon felt. There were a number of court cases against the government relating to irrigation and most of them were decided in favour of farmers. 'The land holders began to claim not only the beds of rivers and streams but also rights to the usufruct of water and courts conceded these rights making it impossible for the government to regulate irrigation' (Baliga, 1960: p.72). The need for irrigation legislation became more vibrant after the first Irrigation Commission (1903), which recommended for a comprehensive legislation; this has resulted in the preparation of an Irrigation Bill, 1906. This bill sought to define clearly the rights of the Government 'to regulate the collection, retention and distribution of water'. Since the Government of India felt that the Bill was not comprehensive enough, it was further revised in 1911 and subsequently in 1914. The Government of India's objection was mainly with regard to the elaborate procedure of inviting objections from ryots before the construction of an irrigation system. In other words, the Government did not want to take a serious view of people's acquired rights. The government was also against the compensation payable for the failure of crops. This Bill was also opposed by the public (Madras Land Holder's Association) on the

grounds that the Bill interfered with the rights of landowners/water users. Subsequently, the Bill was revised and came up for discussion in 1922 and 1924. In particular, the 1924 Bill was prepared mainly to take care of problems created by the new judgments and also to deal with new subjects such as water rates, Kudimaramath and irrigation Panchayats. Though the Bill was said to be 'comprehensive', it was rejected by legislature on the grounds that the Bill interfered with the rights of Zamindars and Ryots, and felt that large powers were given to irrigation officers. However, the Government appointed another Committee to prepare the Bill of 1927, which was introduced in the Legislative Council. This Bill was also passed. However, the Government of India suggested some amendments especially with regard to the fixing of water rates. Fearing a fall in public revenue, the Government suggested an increase in water rates. However, the Legislative Council did not accept the amendments and subsequently the Bill lapsed as council was dissolved. In 1930 another Bill was prepared by the Government mainly to frame laws relating to irrigation and the levy of water cess, which was called the Madras Irrigation Cess Act. This Bill was not introduced in the Legislative Council as it was felt that the Bill was not comprehensive enough. Further, it was felt that the Bill did not specify the rights of the landholders in unambiguous terms.

5. Other Attempts to Introduce Irrigation Legislation

Since all the previous attempts had failed, the Government tried other methods to introduce legal measures. A number of Government Orders (G.Os) were issued for this purpose. One such important GO was on the formation of an Irrigation *Panchayat* at channel/tank levels. These Irrigation *Panchayats* had different degrees of success depending upon places: in some places they worked well and in some others not (Rajagopal 1991). Subsequent attempts made by the British Government for passing an Act also did not materialize due to World War II. Though comprehensive irrigation Bills were not passed, some special Acts relating to irrigation were passed between 1930 to 1946. They were, (1) the Madras Compulsory Labour (Amendment) Act 1935, (2) the Madras Irrigation Cess (Amendment) Acts of 1901 and 1945, (3) the Madras Irrigation (Voluntary Cess) Act of 1942 and (4) the Madras Irrigation Works (Repairs, Improvement and Construction) Act of 1934 and 1945.

The Compulsory Labour (Amendment) Act (1935) was passed with a view to demanding from *ryots* not only labour, but also other materials, such as earth, stone and gunny bags necessary for emergency repairs of an irrigation system. The second Act was passed to levy enhanced water cess on irregular irrigation and also levy additional water cess on estate land *Zamindars* and possessed by *Inamdars*. The third act was passed for the purpose of enforcing *Kudimaramath* system. Instead of compulsory supply of labour, the Act provides for the levy of cess equivalent to the labour required from the landholders in an irrigation structure under the *Kudimaramath* system. The Irrigation Works (Repairs, Improvement and Construction) Act was passed to authorize the government to undertake private irrigation works and supply water from government sources to these private irrigation and levy water charges. These Acts were passed in 1945 but are still in effect. All these Acts are clear cases of not the only appropriation by the State of water rights hitherto enjoyed by the farmers, but also one of enabling the Government to exploit material resources of farmers in more than one way. However, though the Government was armed with all these legislative measures, it never achieved any great degree of success in revamping the *Kudimaramath* system.

6. Irrigation Legislations and Changes in Water Policies after Independence

6.1 Irrigation Bill of 1947

After assuming power, the national government prepared an Irrigation Bill basically on the line of the 1924 Bill. The Bill sought to declare that water is the property of the State, and that the State has the right to control irrigation works under both *Zamindari* and *Ryotwari* systems. It also declared that no civil court has the power to hold back the government from undertaking any irrigation work. It also had many other provisions relating to *Kudimaramath*, irrigation *Panchayat* and Water Cess. Though the Bill was not passed, there were some special Acts passed relating to irrigation. They were, Malabar Irrigation Works (Construction and Levy of Cess) Act 1947, Madras Estates (Abolition and Conversion into Ryotwari) Act of 1948 and the Irrigation Tanks Improvement Act of 1949. The Irrigation Bill prepared subsequently in 1950 and 1953 were on the basis of these special Acts. The Irrigation Bill 1953 was meant to 'define and amend the law relating to irrigation and the levy of water cess', but the Bill was never passed.

There were a number of other Acts passed subsequently and most of them were for specific irrigation projects executed as a part of Major and Medium irrigation programmes executed during the Plan periods. The Mettur Irrigation Canal Cess Act 1953 and Parambikulam-Aliyar Project Act 1994, are examples. There were also some other legislations, which were general in nature: Tamilnadu Betterment Levy Act 1955 and Tamilnadu Field Bothis Act 1969.

During 1960-80, there were many amendments to these Acts. But none of them provided comprehensiveness to irrigation management covering different aspects. A review of some of the important provisions of these Acts are given below (IWS 1997).

6.2 Details About Provisions of Irrigation Acts in Tamilnadu

Tamilnadu Irrigation Cess Act 1865 as modified upto 1980

The 1865 Irrigation Cess Act declared that the state has the right to collect water charges as it has incurred huge expenditure on irrigation construction and drainage work for the benefit of large section of farmers including tenants. According to this Act, the arrears of water cess should be collected as arrears of land revenue. This Act extends not only to *Ryotwari* lands but also to *Zamindari* areas. This is the first Act, which imposed water charges and became the basis for the pricing of water in Tamilnadu. Further, this Act laid down foundation for the differential pricing of water, based upon the period of water supply and the dependability of irrigation sources.

Tamilnadu River Conservancy Act 1884 (as Amended in 1969)

This act was based upon Bombay and North Indian Drainage Act and also Bengal Irrigation Act. This act gives wide powers to canal officers for inspection, regulation, management repairs and other purposes like removing obstruction and closing of channels. Where necessary this also gives powers for acquiring land from farmers and settlement of disputes. According to this Act, every farmer is bound to maintain watercourses in a better condition and use it for the purpose for which it was meant. There are also provisions for compensation for loss in case of non-provision of water supply by the State. The Act also gave powers to canal officers to levy water rates for canal water supply. The rates were to be fixed by the

government from time to time. The Act also contained provisions for penalty for violation of rules and regulation fixed by the State.

Periyar Irrigation Tanks Preservation Act 1933

This Act is meant for the preservation of tanks under Periyar System in efficient condition. This Act provides for the repair of tanks through labour contribution by farmers as requisitioned by the respective district collectors. The collector has the power to execute measures necessary for the repair of tanks, determine the cost of such repairs and the extent of contribution that has to be made by water users (farmers) for such repairs. Accordingly, every landowner shall be required to pay an amount in proportion, which is one half of the average area of the lands assessed during the three preceding agricultural years.

The Act dispensed with the earlier customary labour contribution and problems associated with it by levying a cash contribution. However, during emergency times, the collector can take any measure without going through the normal procedure and recover the cost as mentioned above. The Act also provides for the recovery of the cost as arrears of land revenue by attaching the properties of farmers in case of default by them.

Tamilnadu Irrigation Voluntary Cess Act 1942

The Act was passed mainly to enforce the *Kudimaramath* system effectively. The existing provisions in the Madras Compulsory Labour Act 1958 were ineffective as the procedure under this Act was found to be cumbersome. Hence it was felt that the *Kudimaramath* be replaced by a cess levied for the purposes of maintenance. The Act was also meant to make statutory cess, which was already levied in some districts. According to this Act, the state can levy and collect an annual cess if two thirds of the farmers in an area desire it and the amount collected could be utilised for the annual maintenance of irrigation works. In these cases, the *Kudimaramath* obligation on the part of farmers will be dispensed with.

Thus, the Act provided for cash contribution by farmers on a voluntary basis to replace the *Kudimaramath* system. This Act differs from the Periyar Irrigation Cess Act, which is levied compulsorily. The Act gave relief to farmers from the problems of compulsory labour under *Kudimaramath*.

Tamilnadu Irrigation works (Repairs, Improvement and Construction) Act 1943

The Act was meant for to enforce the undertaking of repairs in *Zamindari* areas and private irrigation sources where maintenance was neglected affecting food production. This Act provides for tenants to compel the landowners to undertake repair and maintenance works. In case of failure to undertake such works, the government would do so and recover the cost from the defaulting landowners. The landowners in turn get the right to avail of loans from the government under the Land Improvements Act and also enhance the rent payable by tenants. The Act also gave powers to the government to supply water to private irrigation sources where there is a total collapse of such sources and collect water charges at the rate fixed by the government. However, in practice, the Act was found to be less effective as tenant farmers were afraid of exerting pressure on landowners by applying to the Collector.

An amendment of the Act in 1945 laid down principles of cost sharing between the government and the private owners of irrigation sources, for repairs and maintenance works carried out by the government. Earlier the entire cost of the maintenance works were to be borne by the private owners / Zamindars though the improvement benefited the Ryotwari

(government) lands. However, the amendment removed the anomaly and the costs on repairs and maintenance could now be shared proportionately, not exceeding four per cent of the incremental income from such improvements.

Tamilnadu Irrigation Tanks (improvement) Act 1949

The Act was passed with a view to preventing the deteriorating conditions, which had resulted in a decline in the command area effectively irrigated. As per the provisions in the Act, the government can increase the capacity of the tank by raising full tank level (full capacity of a tank), regardless of location, whether *Zamindari*, *Inamdari* or *Ryotwari* area. It also empowers the government to recover the costs in such proportions as may be prescribed by the collector. It also provides for compensation to those affected by such an increase in the level of the tank.

Tamilnadu Irrigation Works-Construction of Field Bothies Act 1959

Though a number of irrigation schemes were executed, the potential command designed was not fully utilized. One of the main reasons identified was the lack of field channels to transport water from branch canals and minor channels. Moreover, as these field channels have to be dug in the midst of fields which fall under the domain of private property, there was a problem in such construction due to lack of cooperation among farmers. Hence, there was a need for an Act, which would facilitate such construction. Under this Act, the district collector can ask land owners to construct or improve field channels at their own costs. It also prohibits anyone obstructing the flow of water in a field channel. However, the implementation of this Act is also unsatisfactory as there is no provision for compulsory acquisition of land under this Act. As a result, the schemes meant for the development of the command area could not be undertaken effectively.

Tamilnadu Irrigation Levy Betterment Contribution Act 1955

Since independence, a number of irrigation projects were taken up as a part of an overall agricultural development strategy. This has also contributed to improvements in existing irrigation systems. This Act provides for the capital cost recovery of those projects from beneficiaries. Accordingly, the cost incurred by the improvements should be fully collected over a period of time. However, the practice of this Act is quite unsatisfactory as the state is not interested in the collection of capital costs of such improvements for political reasons.

Tamilnadu Panchayat Act 1958 (as amended 1997)

The Act authorises Panchayats to construct and repair minor irrigation works under the control of Panchayats. The Act also provides for the collection of cess on irrigated lands, which is about six times that of unirrigated land. This is one of the major sources of funds for local bodies. However, cesses collected from irrigated lands are not utilised for the proper maintenance of irrigation systems.

Tamilnadu Additional Assessment and Additional Water Cess Act 1963

Water cesses were fixed originally at the time of survey and settlements, around 1865 (Irrigation Cess Act 1865). After that there was no revision in water charges until 1963, when additional assessments were levied in the case of wet and dry lands to the extent of 50 per cent of the basic water cess. Thus, the Act paved the way for an increase in irrigation

revenues. Since then there has been no revisions in water charges in Tamilnadu though many states have revised the rates.

Tamilnadu Land Improvement Act 1959

The Act is comprehensive enough to undertake conservation and improvement works on soil, groundwater and surface water in any part of the state. Thus, the Act provides for drought and flood relief measures by the government and for the reclamation of wastelands. For this purpose, the Act suggests the creation of Boards at different levels, viz., state, district and river valley catchments areas.

Compendium of Rules and Regulations (1984): Part I Water Regulation and Part II Flood Regulations

This contains rules and regulations passed by the government for regulation of water distribution and floods under different irrigation projects in the state. These rules define the responsibilities of officials at different levels in water regulation, dates of opening and closing up of sluices with specific technical parameters.

Standing Orders of the Board of Revenue

These orders prescribe different water rates (such as basic rates and additional rates) for different categories of lands (land is classified into six types depending upon the duration of water supply). The Act requires users (new categories) to obtain permission from the government for non-agricultural purposes.

On the whole, the motive of all the legislative measures outlined above was to raising revenue or were related to specific system's management. As mentioned earlier, there were no attempts to bring in a comprehensive legislation for the better management of irrigation taking in to account the changes in agricultural practices, changing water needs and to involve water users in water management practices.

6.3 Attempts to Pass a Comprehensive Irrigation Act

Like Tamilnadu, many States had a number of Acts relating to different aspects of irrigation but none of them was comprehensive. The multiplicity of Acts dealing with different aspects also created problems for better management of irrigation and quick resolution of conflicts. The Irrigation Commission 1972, which has gone into this question recommended the **consolidation and simplification of Irrigation Acts into one**, which can be applied uniformly throughout a region or State. The matter was referred to the Indian Law Institute in 1977 for the preparation of a Model Irrigation Bill for this purpose. Subsequently, a Committee was constituted to examine the Model Bill prepared by the Law Institute and to suggest modifications. The Bill was circulated among all the States for discussion. The Bill, however, did not receive much attention from the Tamilnadu Government. Subsequently, as a part of the Water Resources Management Studies Project funded by the UNDP, an attempt was made by the Institute of Water Studies, PWD, Government of Tamilnadu, to prepare a draft irrigation Bill on the lines suggested by the Indian Law Institute.

6.4 Salient Features of the Draft Tamilnadu Water Resources Act, 1989

With a motivation of putting together all earlier attempts and to enact a comprehensive Act pertaining to water resources, Tamilnadu Water Resources Act, 1989, was drafted as a part of

the Water Resources Management Project, Government of Tamilnadu, funded by the United Nations. The motivation of this Act was to enable the State to have greater control over water resources in the State, to have a greater say in water allocation, regulation, to promote equity in water use, maintenance of data base on water resources, to promote and to make legal the conjunctive use of surface and groundwater and to adhere to strict water quality control measures.

Article 2 of the Act states, 'that existing water legislation is piece-meal and inadequate to address the increasing demand for limited water resources in the State of Tamilnadu; that water for municipal, domestic, irrigation, power, industrial and related uses is vital to the maintenance and development of the State of Tamilnadu;' (IWS, 1989, P.6). Further, it is unambiguously stated in the objective of the Act that water resources are the property of the State of Tamilnadu and that the State shall ensure efficient, effective and equitable development among various users. The Act also indicates that the existing water rights heretofore established shall be recognized and protected. To quote from Article 4 of the Act, 'It is the responsibility and authority of the Government in the public interest and benefit to develop, allocate, reallocate distribute, manage, control, regulate and administer the water resources of the State, in all forms, whether atmospheric, surface or underground, including its use, reuse and drainage there from, according to the objectives, policies and principles of this Act; except that the Government must recognize, preserve and protect existing water rights to the use of water subject to necessary control and regulation in the public interest according to the extent of actual and beneficial use' (IWS, 1989,p.10). The Act also has a provision (which was absent from all earlier attempts) for the first time to regulate groundwater extraction. It is indeed heartening that the Act recognized the need for monitoring not only the quantity but also water quality in various river basins of the State: to quote, 'The State shall assess and monitor the quality of surface and groundwater, establish water quality and discharge standards, and develop plans and programmes for the improvement and prevention of water pollution' (IWS., 1989, p.7).

The draft Act also prioritizes the use of water among different sectors, irrespective of whether it is surface or groundwater but only during the times of scarcity. Accordingly, the first priority goes to domestic and municipal water users (drinking), followed by agricultural, power/ energy, industrial/commercial, and all other users in that order. It may be noted that the second priority users are farmers and industrial users are only the fourth in the order of priority. Several measures are proposed with a view to regulating groundwater use such as to obtain a permit from the Public Works Department before extracting groundwater, to promote conjunctive use of surface and groundwater, to adopt artificial recharge measures wherever necessary and so on. The Act makes a proposal for implementing a more uniform, systematic and equitable means of cost recovery and cost sharing. This also involves also the water users' participation in the construction, operation and maintenance of a system. It is acknowledged in the Act that the existing laws relating to water pollution fail to address the means to maintain the water quality of our water bodies. The Act therefore suggests the formation of river basin authorities in which the Tamilnadu Pollution Control Board could work jointly with other State agencies related to water.

Further, this draft Act made deliberate efforts to involve water users in the development and management of water resources. The main purpose of the Water Users' Association was to oversee the operation, maintenance, improvement and rehabilitation of the canal network within a command area, to improve water supply conditions, and resolve disputes. And it discusses, extensively, the functions and formation modalities of Water Users' Association and their active involvement in water management. The draft Act was circulated to all States

for comments, improvements and modification. Though the draft contained many important provisions, it did not receive much attention from the Tamilnadu government.

7. Farmers' Participation Act and Turnover of Public Irrigation Systems

Since the early 1990s, the Tamilnadu Government has been showing an enormous interest in farmers' participation in water management. This, however, seems to be a wisdom which has been received from the World Bank. Thus, the State Government issued an Order in November 1994 to provide for farmers' participation. However, this lacked legal sanction, though it might be held valid by judicial authorities for being a state policy measure (Raju 1994). Nevertheless, the necessity for such legislation arose from the Government's commitment to the World Bank funded Tamilnadu Water Resources Consolidation Project (WRCP). The funding, which came as a part of the WRCP, was used for the renovation of major surface irrigation systems in the State. Further, as a part of this project, the Farmers' Organization and Turnover (FOT) programme has been given much importance. The main objective of this programme is to shift the responsibilities of system maintenance and water distribution to the Farmers' Organizations, which have a command area of about 500 hectares. However, due to legal and other constraints, there are delays in forming Water Users' Association (WUA) under the present system. Hence, the World Bank has recommended the passing of an Act on the model of the Andhra Pradesh Farmers Management of Irrigation Act (APFMIS). The Andhra Pradesh Act provides for the compulsory membership of farmers coming under a water-users-area, which would be delineated by the district collector. All the landholders belonging to this area would automatically become members of the WUA by a government notification. There are three levels of associations in a project area: Pipe Committee at the outlet level, Farmers Council at the Distributary level and Apex Body at the project level. Elections will be held to these associations to select the management committee. As per the Act, the WUA have powers to levy, collect and share the water charges. The WUA is also given financial assistance for meeting expenditure on system maintenance from a routine grant from the State (Jayaraj 1998). The Tamilnadu government has already announced an Act based on the Andhra Pradesh experience. This Act is said to be comprehensive enough, which provides for farmers' management of irrigation systems and other associated aspects.

7.1 Salient Provisions of the Tamilnadu Farmers' Management of Irrigation Systems Act, 2000

The purpose of this Act is 'to promote and secure distribution of water among its users, adequate maintenance of the irrigation systems, efficient and economical utilization of water to optimize agricultural production by involving the farmers and inculcating a sense of ownership of the irrigation systems in these in accordance with the water budget and the operational plan' (Govt. of Tamil Nadu, 2000). The Act provides for the compulsory membership of farmers in an irrigation system for utilizing water from such a system. According to section 3, clause 1, the collector of a district has the power to delineate command area under an irrigation system and declare it to be the Water Users Association area for the purpose of forming a WUA. Every WUA area can be divided into a number of territorial constituencies 'which shall not be less than four, but shall not be more than ten, as may be prescribed'. All the landholders or the actual cultivating tenants in a water users area shall automatically become members of the association.

One of the important clauses of the Bill is that even if a farmer owns land in more than one

territorial constituency of a WUA, he shall be entitled to be a member of only one territorial constituency at his option. This is very crucial because otherwise a bigger landowner, by virtue of the fact that he owns land in many places may exercise power in influencing the activities of the WUA. The members constituting the general body for the respective WUA shall have the right to elect the President and members of the Managing Committee representing various territorial constituencies of the WUA. The District Collector in respective areas shall make arrangements for such an election. Under normal circumstances, the tenure of the President and the Managing Committee shall be five years.

Two or more WUAs will form a Distributary Committee and Presidents of all WUAs will become members of such a Distributary Committee *ex-officio*, and all such members shall constitute the general body of such a Distributary Committee. In addition, there shall be a Managing Committee for every Distributary Committee, which shall consist of a President and members who shall not exceed five from among members of Distributary Committees. 'The Government may, in such manner as may be prescribed, delineate every command area or part thereof, of an irrigation system, and declare it to be a Project area for the purpose of this Act'.

Further, a Project Committee is constituted for every project area which will be delineated by the Government. 'The President of every Distributary Committee in the Project Area shall be member of such Project Committee, *ex-officio*, and all such members shall constitute the general body for such project Committee'. There shall also be a Managing Committee for every Project Committee, which will consist of a President and members who will be elected from among the members of such Project Committee. The number of members in this Managing Committee shall not exceed nine. On top of all these, the Government by notification, may constitute an Apex Committee with a Chairman and such number of members and powers as may be prescribed by the Government. The purpose of the Apex Committee is stated to be to lay down the policies and guidelines for the implementation of the provisions of this Act.

A motion for the recall of a Chairman or a President or a Member, as the case may be, of the Managing Committee of any Farmers' Organization may be made by giving notice in writing and signed by not less than one-third of the total members.

Main functions of Farmers' organization as prescribed by the Act

The following functions are some of the functions to be performed by a Water Users Association under this Act;

- Planning and implementation of a rotational water supply system
- Maintenance of irrigation system right from distribution to field channels
- Promotion of economy in the use of water
- Assisting revenue authorities in the collection of water charges
- Maintenance of register of water users
- Maintenance of data base on the inventory of the irrigation system within the area of operation

- Removal of encroachments on canals, drains and tank *poromboke*
- Resolution of disputes among members of the association
- Raising of resources

Similarly, the Distributary Committee and the Project Committee also have some prescribed functions to perform. Most of these relate to the preparation of an operational plan based on the entitlement, area, soil and crop pattern. And they also have to ensure the maintenance of canal network, the proper distribution of water among various WUA, the collection of water rates and the promotion of economy and efficiency in the use of water.

Sources of funding for WUA

The WUAs under this Act are empowered to levy and collect fees not exceeding Rs.500 per hectare per year from every water user. In addition, the WUA will get access to a funding from other sources such as annual grants from government, such other funds which may be granted by the State and Central Governments, borrowings from financing agencies, income from the assets of the organization and donation from any other sources. The fund thus mobilized shall be deposited in a nationalized bank or a cooperative bank. The managing committee of the Farmers' Organization shall maintain a sinking fund with a view to facilitating repayment towards borrowed funding.

Government's control over WUA

Under this act, the government shall appoint officers from the irrigation department as special officers or as competent authorities for implementing the decisions taken by the Managing Committee and they have powers of direction or instruction for carrying out the works entrusted to them within the purview of the Act. 'Every Farmers' Organization shall extend such cooperation or assistance, as may be required by the competent authority, and follow such directions or instructions as may be issued by the competent authority, from time to time, for carrying out the purposes of this Act'.

In order to supervise the functions of the officer including the collectors, the government can appoint a Commissioner and give him the required powers for carrying out the functions specified by the government. The government also has powers to give directions to competent authorities/farmers associations to take such actions as may be specified by it.

Settlement of disputes

The managing committees of WUAs/distributary/project/Apex Committees are the authorities for the settlement of disputes arising among members of such an organisation and the concerned committee shall be decided by the managing committees of immediate higher level organisations. The concerned members if aggrieved by the decisions of such committee can appeal to the next higher level committees and the decisions of such committees shall be final. All the appeals under this act shall be disposed off within fifteen days. It is necessary to underline the powers of the Apex Committee or the Government. The Act says, 'any such dispute or differences arising between a member and the managing committee of a project committee or between two or more project committees shall be determined by the Apex Committee, whose decision shall be final'

Provisions for offences and penalties and recovery of arrears

Those who violate the provisions of this Act 'shall, on conviction, be punished with imprisonment for a term which may extend to two years or with fine which may extend to five thousand rupees, or with both'.

Further, Article-39 of the Act provides for recovery of money due to a Farmers' Organization as arrears of land revenue and 'for the purposes of such recovery, the competent authority (in this case, irrigation department) shall have the powers of a Collector under the Tamilnadu Revenue Recovery Act, 1864.

7.2 Evaluation of the Farmers Participation Act 2000

Positive Aspects

The Act no doubt provides the legal framework for a better participation by farmers in water management for the first time in the history of irrigation legislations in Tamilnadu. The Act enables farmers' participation, not only at a lower level but also in a restricted manner at the main system level. The farmers' collective participation is enabled through the formation of WUAs, the office bearers for which have got to be elected through a democratic process. The Act also provides for the autonomous management of the irrigation system by the Farmers Organizations in their respective areas for both the maintenance of the system and for the distribution of water supply. The annual grants allocated by the Government for various purposes, such as for operation and maintenance, can now be better utilized by WUA. Also the WUAs have legal powers to levy and collect additional water charges, which would enhance their financial positions. Hence this provision would go a long way in improving the cost recovery. With regard to the settlement of disputes, since the decisions taken by the concerned Committees or their higher level committees are final, the Courts are forbidden to entertain any further appeal.

A major breakthrough as regards the management of FOs is that the members of the association are vested with powers to recall the committee members. This provision would contribute for the accountability of the elected leaders and restrain them from mismanagement. Further, the Government as has been generally seen in many other organizations like cooperatives and Panchayats, cannot wind up the management committees of WUAs.

Negative Aspects

The Act is comprehensive enough and many provisions of the Act are ideal for a smooth water management system. The Act ensures better participation by farmers in water management not only in water sharing but also in the collection of water rates and in maintenance as well. Further, the intentions of this Act are never in question. In the past also, as we have discussed earlier in this paper, several legal attempts were made by the then British Government to organize farmers to undertake maintenance work. But unfortunately, all past attempts were a gross failure. It does not, however, follow that present attempts would also result in failure. Nevertheless, it is important to take a critical view of the provisions of the Act and such a view may help to correct the inadequacies in the Act.

It is sad indeed that for many historical reasons even the traditional irrigation institutions are fractured and fragmented. But the present Act attempts to organize water users and form associations. Before attempting the introduction of new irrigation (farmers) organizations through legislative measures, it is therefore necessary to examine the reasons for the disintegration of traditional irrigation institutions.

The traditional irrigation institutions, which evolved over a very long period of time and existed in many canal and tank irrigated areas, are characterized by several social arrangements and social responsibilities. In reality, the technology of water use for agriculture has developed over a period of several centuries, and its history has run parallel with the patterns of human settlements and village societies. The social norms appear through long processes of evolution (Basu, 2000). To quote Ullmann-Margalit, 'Norms as a rule do not come into existence at a definite point of time, nor are they the result of a manageable number of identifiable acts. They are, rather, the resultant of complex patterns of behaviour of a large number of people over a protracted period of time' (Ullmann-Margalit, E. 1977 and quoted in Basu, 2000:123). Therefore, it follows that traditional irrigation institutions cannot be definitely dated and the success or failure of an irrigation institution depends very much upon the active participation of each and every individual member of a village society. The participation of a village society however, will be institutionalized and sustained only when a society feels the necessity for it. Under such circumstances, the principles of collective use will evolve and will get institutionalized. This is how history works.

In the same way, if the traditional irrigation institutions at the moment are in the process of decay or already defunct, it is because of some compelling socio-economic, technological and institutional factors. (For more details on the factors, which led to the disintegration traditional irrigation societies see Janakarajan, 1993). The hitherto organized members of a village society are currently unorganized and it is not easy to 'organize' them either by force or by law. This is simply because the fundamental motivation for 'association' or 'convergence' or 'meeting together' should evolve from within, rather than being imposed from above. The next question that comes to our mind is whether we could indoctrinate motivation in their minds. This is grossly unrealistic and impracticable. On the other hand, in many parts of the State and country, whether one likes it or not, traditional irrigation institutions are still functioning to a reasonable degree. In such village societies, are we going to superimpose a new institution, through legislation, on the existing ones? Are we really empowered to alter the norms and institutionalized practices, which have evolved over a long period of time?

Further, let us try to understand the relationship between law or the State and the people for whom it is meant. In the present case, the Act is meant for water users in a village society. As per the Act, the water users have no option except to become members of the WUA. A farmer who owns land in a given command area and if he does not want membership in the WUA, seems to have no right to opt out of WUA. If indeed a farmer does not have the option, then it sounds undemocratic. Look at it from another angle: Most farmers who own wells in the command area (who actually do not want membership in the WUA) become members as required by the law; such members may not participate in the collective action. Indeed, such members do not have any incentive to participate in the 'State sponsored collective action', particularly in a situation where the extraction cost of water from wells is zero (due to hundred percent subsidy extended to agricultural pump sets in the State of Tamilnadu).

A brief discussion on a few individual sections and various clauses in the Act follows in the next few paragraphs:

The Act is called the Tamilnadu Farmers' Management of Irrigation Systems Act 2000 but the way 'farmers' are defined is quite narrow. As per the Act 'every WUA shall consist of all the water users in such water users' association area as members' (Section-4.2). If one concludes from the above section that a WUA includes only those cultivators who own or

cultivate land, then the Act is effecting a great injustice to a village society, in which water has been considered the property of all sections of the community. And, in the process the Act excludes the landless population from becoming members of a WUA.

Section-12 empowers the Government to constitute an Apex Committee, which will have an overall control over WUAs. But the constituent members of this Committee have not been spelt out. The ambiguity lies, in particular, whether the members of the Apex Committee are primarily from WUA or from WRO or from any other section. This is important because, most of the final decisions are taken by the Apex Committee, and if this Committee is dominated by the WRO, then the strength and autonomy of WUAs will get diluted. On the other hand, if the members of the Apex Committee are nominated from political parties (as happens in the case of Cooperatives at present), there is every possibility for the misutilisation of this provision in favour of the ruling parties.

Section 26 of the Act provides for the appointment of personnel from the Water Resources Organization (WRO) of the Public Works Department of the Government of Tamilnadu, as competent authorities for implementing the decisions of the farmers' organization but their role is not specified. Clause (3) of Section 26 is, in fact, vague in defining the powers of the 'competent authorities' of the WRO. It only says that the directions given by the competent authorities must be followed by the farmers' organization. Section 46 (2) also empowers the Government to issue any order as regards the powers of the competent authorities and requires the farmers' organization to give effect to such orders. To quote, 'The Government may issue such orders and directions of a general character as they may consider necessary in respect of any matter relating to the powers and duties of the competent authority or the farmers' organization shall give effect to such orders and directions'. Such undefined powers given to the WRO personnel may result in the misuse of power. In which case, the whole purpose of empowering water users will be defeated. Further, such powers given to the WRO personnel may weaken or dilute the autonomy given to farmers' organizations. In the final analysis, the WUAs may be reduced to the status of a mere takers of directions given by the WRO. This is exactly the problem that confronts us at the moment; in which case, where is the departure from the current system of water management, which is maintained by the bureaucracy? And what kind of powers and autonomy have we 'turned over' to water users through the Act? Please note that even in the case of a settlement of disputes among water users, the final say is in the hands of the WRO. The Act says, 'any such dispute or differences arising between members and the managing committee of a project committee or between two or more project committees shall be determined by the Apex Committee, whose decision shall be final' (Section 36.4). But currently, the matters concerning water disputes are resolved through local institutional mechanisms. This is yet another example which highlights the extended role of the WRO and which disturbs the existing autonomy enjoyed by the irrigation institutions.

Most important of all, the Act discusses the formation of WUA in the surface water commands without taking into account the extensive prevalence of irrigation wells in the same command areas. As discussed earlier, access to a private source of irrigation (namely, wells) may provide a big disincentive for the farmers to take an active interest in the WUA. At the same time, in order to make the WUA more sustainable, the well owners cannot be asked to close down their wells. The greater the number of wells in a given command area, the less effective will be the collective action. Therefore, a crucial aspect of an integrated water resource management of surface and groundwater is lacking in this Act. Further, the main idea of the 73rd amendment to the Panchayat Raj Act is to strengthen the democratically

elected government which represents all sections of the village population. But the formation of WUAs weakens this very fundamental objective.

8. State Water Policy in the Context of Water Rights

So far we have discussed, in a somewhat chronological fashion, the legislative measures undertaken by the State concerning the water sector and water rights. But we have not discussed the State water policy as such. It is interesting to note that the State never had a policy for a coordinated development of water resources until the formulation of a national water policy in 1987. The State drafted its own water policy in 1994 only, that too at the insistence of the Government of India and the World Bank. Until such time, most of the activities of the State were undertaken on an ad hoc basis. In fact, the severity of the looming water crisis was never thought of. (Government of TamilNadu 1994). Some of the goals of the State water policy are to establish an information system for water resources, to give top priority for drinking water, to provide adequate water for industries, to maintain water quality, to promote equity and social justice, to promote users' participation in water management and to provide a mechanism for resolving conflicts between users and between intra-state river basins.

The approach of the State water policy has been as follows.

- Efficient management of watershed to minimize sedimentation
- Removal and prevention of encroachment in water courses and water bodies
- Restoration of the capacities of the existing water bodies
- Modernisation of the physical systems
- Avoidance of transmission losses
- Minimisation of evaporation losses
- Adoption of modern methods of irrigation
- Planning of recycling and re-use of water
- Minimisation of leakages in pipelines in drinking water systems
- Artificial recharge of groundwater
- Interlinking the river basins within the state
- Planning for cloud seeding
- Rainwater Harvesting
- Desalination techniques

It can be seen from the above account that the approach of the State water policy to water resource development is technical rather than oriented towards the community. Further, the explanatory note to the water policy offers details about the methods of achieving goals but

no mention has been made about the people's rights in water resource development. This also confirms our earlier argument that traditional water rights of people have been appropriated by the State. Though the policy statement mentions farmers' participation in irrigation management, their rights over water are not clearly defined. Water resource systems are generally identified with those who have land and those of the landless are completely excluded. Moreover, the extent of users' participation is limited to the operation and maintenance at local levels only. The involvement of the community in the system level designs and construction are neglected. As the water policy is an important document, which spells the out development strategy of a State, such neglect is a serious flaw and deserves a thorough revision.

9. Analytical Summing Up

The foregoing discussion demonstrates the initiatives taken by the State to appropriate the water rights that belonged to the people and the measures attempted to turnover the rights back to them. Paradoxically, both the attempts were through legal means. What is absorbing is the State's adeptness in resolving to encourage 'participatory irrigation management' when, after all, the State's management efforts failed to deliver goods. Furthermore, the State's wisdom of turning over irrigation systems to water users is not a 'spontaneous accomplishment', but at the instance of the World Bank. As a part of the Water Resources Consolidation Project (WRCP) funded by the World Bank, the Tamilnadu Government has borrowed to the extent of Rs.1200 crores. The implementation of FOT (Farmers' Organization and Turnover) programme in the state is in the initial stage in the major, medium and minor irrigation systems with financial assistance from the World Bank. The State resorts to turning over irrigation systems to people, which are beset by problems such as an absolute deviation from the original operational rules, a gross mismatch between the availability of water supply and the demand for it, low recovery rates, the availability of very little resources for operation and maintenance, corruption at all levels, fragmented community action, and so on. In addition, there has been a huge accumulation of neglected repairs over a long period which has paralysed irrigation management in many systems. It is not clear how far the system improvement works undertaken as a part of the World Bank programme will be effective in solving such an ageold problem of neglected maintenance.

Besides, the substantive question is how can the State impose a non-functioning or a mal-functioning irrigation system to people through an Act? Even if the State imposes it through law, to what extent will people accept it, and what kind of a collective action can we expect from them?

In addition, the State was interested mainly in financial management either by reducing maintenance expenditure on irrigation or by improving the financial outcomes of irrigation projects. Indeed, the Compulsory Labour Act and various other Acts related to water cesses are meant for this purpose. Also the legal provisions were related to project specific operation and management of the system and in that sense, these provisions were regulatory in nature. For a long time, the State played a major role in deciding the rules and regulations of water management. There were no provisions for users' participation. Though there have been some attempts made in recent times towards promoting user participation, these legislations are not comprehensive. Moreover, there is no scope for involving farmers in the plan and design of the system right from the project formulation stage. Even the existing rules and regulations of irrigation systems, which are managerial in nature, suffer from a number of

problems (for more details, see Raju, 1994). An important aspect of these legislations is that water rights and land rights are interwoven, which pose problems of equity and social justice.

The more critical issue of relationship between water and water users was never a part of the State's agenda. In the past, farmers' contribution towards all critical functions of water management was through spontaneous community action. Nevertheless, there is a tendency to glorify traditional irrigation practices. Those who do so not only fail to acknowledge the weaknesses in that system but also advocate revamping of such system. Firstly, the irrigation institutions of the past manifested clearly the social and economic hierarchy and for that reason, the question of equity in the sharing of water never arose as a subject matter for discussion. Secondly, no democratic norms were followed in the appointment of irrigation functionaries. Thirdly, all decisions were taken locally and decisions of the canal managers were always final. In sum, it was local irrigation despotism. Further, it is not easy to revamp traditional irrigation institutions. There are many socio-economic and institutional factors, which have contributed to the disintegration of the traditional irrigation societies such as changes in the land control institution and the nature of changes in the control over productive resources, changes in the mode of production, changes in agro-irrigation technology and massive development of groundwater irrigation and so forth. All these have contributed to a great deal of change in village societies. Those who support the revival of traditional water management systems fail to understand the overall development that is taking place in the countryside. Take for instance, the development of groundwater irrigation: can we take this development as an isolated event in a village society? Janakarajan (1993) summarizes this point in the following manner: 'Land transfers from upper castes to the hitherto cultivating castes have been a fundamental change that has taken place in the villages, which in turn has resulted in the emergence of owner cultivation in the place of tenancy contracts. The changes in the mode of cultivation, coupled with the introduction of new technology have induced farmers to go in for an extensive development of well irrigation, in particular wet lands. As a consequence of private control and ownership of irrigation water (viz., groundwater), farmers' interest in the collective effort for maintaining traditional irrigation systems gets weakened. landlords who exercised a great deal of power in preserving and controlling the traditional village systems including that of traditional irrigation institutions, have lost their glory. Therefore, traditional irrigation institutions in their normal course disintegrated or are in the process of disintegration....' (p.A.59).

There is another aspect relating to the State vis-a-vis community water rights, which needs to be clarified. The State has the sovereign right to appropriate, control and regulate water, subject to protecting the interests of riparian right holders. The proceedings of many court cases which uphold the rights of the Government as well as those of the riparian rights holders are summarized very well in the draft Water Resources Act, 1989 for Tamilnadu. In this context one should study the Tamilnadu Farmers' Management of Irrigation Systems Act, 2000. This Act provides for greater user participation, reduces the State's role in water management but at the same time legalizes water as being the property of landowners only. In the process, the landless population, which hitherto enjoyed rights over community water resources, is excluded. Further, to what extent landowners are motivated to participate in water management as envisaged by the Government remains to be seen.

The State could play a useful role as a protector of water resources rather than as a provider. This is more crucial in a context where the sustainability of water resources is at stake. This is not to deny the fact that civil society has a greater role in contributing to sustainable development but the State certainly has an important role in so far as the enforcement of, for

instance, pollution abatement laws, regulating the use of groundwater by different sectors, enforcement of laws to preserve the ecology and environment, technology dissemination and so forth are concerned.

Appendix –1: Water Rights in old irrigation projects: The Case of Palar

The Palar river, which originates from the *Nandhidurg* hills, runs through the States of Karnataka and Tamilnadu states, before it joins with the Bay of Bengal near Chennai city. The Palar river used to be the mainstay of at least two districts in Tamilnadu for both agriculture and drinking. For many centuries, this river provided irrigation water for a couple of million acres, both directly and indirectly. The river water was used to feed a chain of irrigation tanks and also generated hundreds of spring channels (tapping base flow).

Before the construction of the *Palar Anicut* system in the year 1858, farmers used to construct what is locally called *Kondams*, to divert river water to tanks and fields. Thousands of community labourers drawn from many villages were organized for the temporary construction of *kondams* and for all other related activities. Since the *kondams* got washed away during heavy floods, farmers were involved in repeated action every year to divert the Palar river water. With a view to having a permanent structure for diverting water, the then British Government constructed an *Anicut* (a diversion weir) called *Palar Anicut* in the year 1858. This *Anicut*, through four major channels diverted water to a series of tanks in the undivided North Arcot and Chengalpattu districts. Presently, the PAS feeds 317 tanks in this region.

Water management functions in this region were organized by the local people through *Kudimaramath labour*, both before and after the construction of the PAS. But the construction of a temporary *Kondam* required the co-operation of a number of villages, which benefited by the system. Therefore, there existed well-organized principles to organize farmers on such a large scale every year and local farmers enjoyed absolute water rights over the Palar river. This being a general system adopted for the maintenance of the Palar system, there were specific rules regarding supply to individual tanks. Accordingly, when there was no supply from the Palar, *Kondams* were to be built to divert the rain water flowing in the canal. Similarly there were number of traditional methods prescribed for filling up tanks under different water supply conditions. In order to enforce these regulations, village communities used to deploy labourers at crucial points of diversion to ensure that water was not diverted to other channels, which were not entitled to it. Thus, the village institution ensured that water rights were properly enforced and not infringed upon by illegal methods. This kind of system was observed in almost every channel. The water rights enjoyed by the farmers were codified and adopted by the village communities. Such codified water rights were recorded in a document called *Mamulnamas*.

However, the introduction of the '*kaniyachi*' system on land administration disturbed the water rights hitherto enjoyed by the farmers. Most of all, since the changes in the land administration system (from *Zamindari* to *kaniyatchi*) has increased the number of land owners from one, to say, for example, 30, disturbed the local power equations. Further, since the centralized enforcing authority (*zamindar*) was no more in existence, the local water management functions through community labour got disrupted. As a result, many system tanks, which were functioning better earlier, fell into disuse.

Under these conditions, there was a necessity for the State to intervene. With this view, the Government introduced what is known as the Tank Restoration Scheme in order to renovate

and revamp the tank irrigation system in the Presidency. Even then, there was no marked change in the management of the tank irrigation system in the Presidency, more so in the Palar Anicut System.

Construction of the PAS and bureaucratisation of water management

We have seen earlier that people used to construct temporary *Kondams* to divert water from the river to tanks. The introduction of the *Kaniyatchi* system and the subsequent changes in the land control institution, have resulted in decline in the *Kudimaramath* system. Therefore, with a view to utilising the Palar river water, farmers lobbied for a permanent structure across the river to divert the water to tanks. Thus, the PAS came into existence in the year 1858. This was the beginning of the Government gaining control over water resources. Subsequently, there was pressure exercised by non-command farmers to undertake new schemes in the basin, which resulted in the construction of the *Cheygar Anicut* in the 1870s. Further, the Government played a crucial role in transacting with the Government of Mysore, the upper riparian, for enhancing water supply in the Palar river. The then Madras Government, kept increasing command area under the *Palar Anicut* and constructed other *anicuts* with a view to enhancing revenue. The state government, after intensive investigations in the basin in 1930 itself, came to the conclusion that the river was being made to irrigate a far larger area than it was theoretically capable of irrigating. Coupled with this, the efficiency of the PAS has been affected owing to siltation in the *Anicut* and the major channels. Based on recommendations of the Committee, the Government passed an order (GO) prohibiting new irrigations works and an extension of existing works. In addition, the GO also banned the conversion of dry lands into wet and single crop wetlands into double crop wetlands. (G.O. No. 1617 I dated 19th June 1931). However, these restrictions were diluted by a number of subsequent GOs. In recent times, after the introduction of the green revolution technology in the mid 1960s, the Tamilnadu Government relaxed many of these rules with a view to providing more irrigation water. Massive development of well irrigation in the basin has been a clear manifestation of the relaxation of these rules.

In 1981, the government has prohibited the sinking of wells or tubewells with or without pump sets within a distance of 600 metres from either bank of the Palar river. Also such wells were prohibited within two furlongs of the heads of spring channels under the Palar river. (GO MS.No.1198 PWD 6th May 1961). However, there were quite a large number of representations from farmers to relax these rules. Subsequently the Government passed a GO reducing the distance to be observed for digging of wells from two furlongs to one furlong. It also relaxed the restrictions on the wells constructed within the command area of the spring channels. In addition, the capacity of the pump sets was restricted to 5 H.P.

As there were further hardships in implementing the 1961 GO, an additional order was passed in 1965 to eliminate the problems. However, it was necessary that the new wells proposed should not interfere with the water tables of the existing wells. Therefore, A GO was issued in December 1978 (GO MS No. 1711 dt.23.12.1978), which relaxed further the conditions for the utilisation of the Palar water. Accordingly, the distance norm for the sinking of wells was reduced to 400 metres in case of spring channels and 50 metres in case of other sources like tanks. Also the pumping capacity increased from 5 HP to 8 HP. However, permission for sinking of wells or installation of pump sets would be given only in areas where the Chief Engineer (ground water) had given clearance. The distance norm was further reduced from 400 meters to 200 metres in 1985 and the pumping capacity increased to 10 H.P. Accordingly, the permission was also given to regularise all those pump sets, which had already increased their pumping capacities (GO MS. No.702 dt.13th May 1985.).

Finally, another amendment to the GO in 1988 gave further relaxations on the recommendations of the High Level Committee on Special Rice Production Programme: The distance rule now will not apply to tributaries or spring channels but only to the river. That is, the distance for prohibition of wells shall be computed from the banks of the river only. The rules apply only to those areas (survey numbers) within the prohibited zone and not to the entire village. The spring channels that existed earlier but had dried up were to be exempted from the purview of the Palar basin rules and the collectors of North Arcot and Chengalput districts were authorised to decide about the defunct channels.

The above historical account explains the manner in which the bureaucratisation of water resources, with particular reference to the Palar basin took place. It also indicates how the peoples' traditional water rights (especially in the tanks and spring channels commands) were appropriated. We have also seen the crucial role of agricultural and well irrigation technology in all these changes.

Appendix 2: Water rights under new irrigation projects

While old irrigation projects are governed by customary rights and by statutes, the new projects taken up after independence are entirely run by the government. The bureaucracy carries out the entire process of project formulation, construction and implementation. Therefore, detailed guidelines for the opening of canals/dams, the regulation of flow, the monitoring of the systems functioning on a day- today basis across through the seasons and across the seasons in a year. And, all the rules of operation system maintenance were framed without consulting the water users in the command. Rules were framed to operate the systems even up to a pipe point level that has command area of less than 50 acres. The duties and responsibilities of irrigation officials at different levels were prescribed and they were required to follow the set guidelines. There is absolutely no scope for the involvement of farmers in the operation and management of the system. Even if they had some prior water rights, when new projects came into existence, all those prior water rights were meddled with. The case of Parambikulam Aliyar Project (PAP) in Tamilnadu is indicative of the dominance exercised by the bureaucracy.

Parambikulam Aliyar Project (PAP)

The PAP is basically a multi-purpose irrigation project, which diverts a series of west flowing rivers in the Western Ghats eastwards, in order to provide irrigation to the dry tracts of Coimbatore and Erode districts in Tamilnadu. The first phase of the PAP was thrown open for irrigation in 1967. At the time of the commencement of the entire project in 1972, the command area developed was to the extent of 150,000 acres. At the beginning, water supply was provided for 12 months, dividing the entire command area into two zones. In 1978, the command area was extended by about 100,000 acres, taking the total command area of the PAP to 250,000 acres. After the extension, water supply was provided once in 18 months, by introducing a three zone pattern. The beneficiaries of the PAP challenged this decision of the Government by a writ petition in the Madras High Court. In 1983, an agreement was reached between the farmers and the State Government: according to this agreement, the original beneficiaries of the PAP would be given first priority in water supply. However in 1993, the government further extended the command area by about 175,000 acres by passing an act. Therefore the total command area of the PAP reached a figure of 425,000 acres. The original beneficiaries again sought judicial redress. But the Madras High Court dismissed the petition by stating 'the change in the circumstances warranted the passing of the enactment'. It further held that the action of the legislature in seeking to provide water to additional land

could not be regarded as illegal. The Supreme Court also upheld the decision of the Madras High Court after hearing the petition filed by the original beneficiaries. The Supreme Court observed that the legislature has an absolute right to alter the pre-existing right with a view to providing benefit to more people. This verdict of the Supreme Court is important in so far as asserting the State's rights is concerned and further, this verdict has repudiated the prior appropriation rights of the people. Most of all, this verdict has given powers to the State to introduce any changes in the system without consulting beneficiaries.

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II. EVOLVING REGULATORY FRAMEWORK

PHILIPPE CULLET, WATER LAW IN INDIA – OVERVIEW OF EXISTING FRAMEWORK AND PROPOSED REFORMS

Introduction

In the words of the United Nations Development Programme (UNDP), water is ‘the stuff of life and a basic human right’.¹ Thus, water is an essential element for life – including human life – on earth and as a result is a core concern in law. From a legal perspective, the UNDP rightly emphasises the importance of the human right dimension of water. Yet, in practice, water law is made up of a number of elements comprising a human right dimension, as well as economic, environmental or agricultural aspects. In particular, historically, one of the central concerns of water law has been the development of principles concerning access to and control over water.

Drinking water is directly essential for human life. Water is also indirectly essential, for instance, as an indispensable input in agriculture. Yet, despite the central role that water has always played in sustaining life, human lives and human economies, the development of formal water law has been relatively slow and often patchy. At the domestic level, colonial legislation first focused on the regulation of water for economic reasons, for instance, through the development of legislation concerning irrigation and navigation. Over the past few decades, increasing water pollution and decreasing per capita availability have led to the development of other measures such as water quality regulation and an emphasis on water delivery, particularly in cities, as well as environment-related measures. Yet, water law remains largely sectoral to-date. At the international level, water regulation first focused mostly on navigation in international watercourses. It has progressively evolved to encompass issues concerning the sharing of international waters. International water law has, however, not yet reached the stage where it provides an overall regime for the regulation of water uses.

In India, water law is made of different components. It includes international treaties, federal and state acts. It also includes a number of less formal arrangements, including water and water-related policies as well as customary rules and regulations. This working paper maps out the relevant legal framework concerning water in India. The first section delineates water law as it evolved until recently. The second section then examines proposed and ongoing water law reforms that are in the process of completely redrawing India’s water legal framework.

1. Existing Water Law Framework

Existing water law is made up of a number of different instruments. This is the case at the international level where only certain aspects of water law have been developed and where no international water law treaty exists. This is also the case within India where it remains difficult to identify a coherent body of comprehensive law concerning water. This is related

¹ United Nations Development Programme, *Human Development Report 2006 – Beyond Scarcity: Power, Poverty and the Global Water Crisis* 1 (New York: UNDP, 2006).

to the fact that distinct concerns have been addressed in different enactments. This is also due to the division of powers between the centre and the states and the fact that water regulation is mostly in the hands of the states.

This section first highlights some of the salient international instruments that are relevant in India. It then moves on to examine existing water regulation in India and the different principles that govern different types of water.

1.1 International Framework

International water law includes a number of instruments. They may not all apply directly in India but contribute in various ways to the development of water law at the international as well as national levels.

For many years, international water law included mostly treaties concerning navigation in international rivers, which constituted one of the early areas of collaboration among states. This has been expanded to many non-navigational aspects over time but the focus on international watercourses remains an important part of water law, as exemplified in the Farakka treaty.² Indeed, the only multilateral treaty in the field of water is a convention concerning non-navigational uses of international watercourses.³ This treaty adopted in 1997 provides a framework for cooperation among states on international watercourses concerning the use of their waters apart from navigational aspects.⁴ The basic principle it proposes for using international watercourses water is equitable and reasonable utilisation.⁵ The basis for watercourse use is therefore agreement among concerned states concerning their respective needs. While there was substantial debate concerning the place of environmental aspects and sustainability, the principle of sustainable utilisation has not been adopted as a principle that would override equitable and reasonable utilisation.⁶

The adoption of the convention was in itself a landmark development since it took UN member states many years to agree on this text.⁷ Nevertheless, the difficulties encountered in negotiating this convention are reflected in the fact that its scope is relatively limited. Thus, it only applies to international watercourses and is therefore not a convention addressing freshwater in general. Further, its operative principles are relatively outdated as it fails to break clearly with the traditional principle of equitable and reasonable use in favour of a sustainability based approach. While the convention does not break much new ground at the conceptual level, only 14 states have ratified it so far. Further, only 21 countries (including

² Treaty on Sharing of the Ganges Waters at Farakka, New Delhi, 12 December 1996, 36 *Int'l Leg. Mat.* 519 (1997).

³ Convention on the Law of the Non-navigational Uses of International Watercourses, New York, 21 May 1997, reprinted in P. Cullet & A. Gowlland-Gualtieri eds, *Key Materials in International Environmental Law* 481 (Aldershot: Ashgate, 2004).

⁴ *Id.* Article 1.

⁵ *Id.* Article 5.

⁶ See, e.g., Patricia Wouters, The Legal Response to International Water Scarcity and Water Conflicts: The UN Watercourses Convention and Beyond 20 (Dundee, 2003), available at <http://www.dundee.ac.uk/iwlr/ Documents/Research/IWLRI%20Team/Wouters/GYIL.pdf>.

⁷ The mandate for the development and codification of the law of non-navigational use of international watercourses was first given to the International Law Commission in 1970. See General Assembly Resolution 2669 (XXV), Progressive Development and Codification of the Rules of International Law Relating to International Watercourses, 8 December 1970.

those that have ratified) have signed the convention. India has not even signed yet. Freshwater remains an issue over which states are fearful of losing control. As a result, even relatively weak coordination measures appear threatening to many.

Besides the UN 1997 Convention, there exist a number of international treaties that are directly or indirectly concerned with water. The UNECE Convention on impact assessment applies, for instance, in the case of dams and other water-related infrastructure projects.⁸ The Desertification Convention clearly links water and desertification. In fact, its objectives provision recognises that rehabilitation, conservation and sustainable management of water are key to combating desertification.⁹ The Convention on wetlands of international importance (Ramsar Convention) is intrinsically concerned with water.¹⁰ It is particularly noteworthy because it goes beyond the main water treaties insofar as it considers water, which is entirely under national sovereignty. Indeed, the scope of the Ramsar Convention is not limited to transboundary wetlands but includes wetlands that are entirely within the territory of a member state.

Besides treaties focusing on water or having a water dimension, there are a multitude of non-binding instruments concerning water. These include instruments focusing on water like the Dublin Statement that laid down principles for water sector reforms in the early 1990s.¹¹ These also includes instruments not directly concerned with water like the Declaration on the Rights of Indigenous Peoples that specifically recognises the prior informed consent of indigenous peoples is necessary for any project affecting their water resources.¹²

Overall, international water law is both an old and highly developed area of law as well as an area in need of significant development. International water law is well developed with regard to cooperation among states concerning issues and activities that are clearly transboundary in scope such as navigation on international watercourses. In recent decades, the importance of collaboration on non-navigational aspects of international watercourses has rapidly grown and is now recognised as a core objective of international water law. However, international water law is yet to be effectively developed with regard to cooperation on issues related to water found within national boundaries. While this still seems to be beyond what most states can agree on at present, water is no different from biodiversity, which is also nearly entirely found under national jurisdiction. Yet, it is now already fifteen years since UN member states recognised that biodiversity is a ‘common concern’ of humankind, which is under state sovereignty but requires a degree of cooperation in conserving and sustainably using it.¹³ Further, while international water law has at least started integrating an environmental perspective, the social and human rights dimension of water remain largely

⁸ Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25 February 1991, *reprinted in* Cullet & Gowlland-Gualtieri, note 3 above at 29. This convention is open for global membership though India has not joined yet.

⁹ Article 2, United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, *reprinted in* Cullet & Gowlland-Gualtieri, note 3 above at 267.

¹⁰ Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, 2 February 1971, *reprinted in* Cullet & Gowlland-Gualtieri, note 3 above at 248.

¹¹ Dublin Statement on Water and Sustainable Development, International Conference on Water and the Environment, Dublin, 31 January 1992.

¹² Article 32(2), United Nations Declaration on the Rights of Indigenous Peoples, *in* Report to the General Assembly on the First Session of the Human Rights Council, UN Doc. A/HRC/1/L.10 (2006).

¹³ Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, *reprinted in* Cullet & Gowlland-Gualtieri, note 3 above at 169.

absent. The absence of a human right perspective in water law has been addressed from the perspective of human rights law through the adoption of General Comment 15 of the first Covenant.¹⁴

1.2 Legal Framework in India

National water law is more developed than international water law. Nevertheless, India lacks an umbrella framework to regulate freshwater in all its dimensions. 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 an umbrella legislation at the national level has ensured that the different state and central legal interventions and other principles do not necessarily coincide and may in fact be in opposition in certain cases. Thus, the claims that landowners have over groundwater under common law principles may not be compatible with a legal framework based on the human right to water and the need to allocate water preferentially to domestic use and to provide water to all, whether landowners or not on an equal basis.

In terms of statutory development, irrigation laws constitute historically the most developed part of water law. This is in large part due to the fact the colonial government saw the promotion of large irrigation works as central to its mission. This also included the need to introduce a regulatory framework in this area. As a result, some of the basic principles of water law applicable today in India derive from irrigation acts. The early Northern India Canal and Drainage Act, 1873 sought, for instance, to regulate irrigation, navigation and drainage in Northern India. One of the long-term implications of this act was the introduction of the right of the Government to ‘use and control for public purposes the water of all rivers and streams flowing in natural channels, and of all lakes’.¹⁵ The 1873 act refrained from asserting state ownership over surface waters. Nevertheless, this act is a milestone since it asserted the right of the Government to control water use for the benefit of the broader public. This was progressively strengthened. Thus, the Madhya Pradesh Irrigation Act, 1931 went much further and asserted direct state control over water: ‘All rights in the water of any river, natural stream or natural drainage channel, natural lake or other natural collection of water shall vest in the Government’.¹⁶

Colonial law in this area remains relevant to-date because acts like the 1931 MP act are still in force. Further, in MP again, the Regulation of Waters Act, 1949 reasserted that ‘all rights in the water of any natural source of supply shall vest in the Government’.¹⁷ The much more recent Bihar Irrigation Act, 1997 still provides that all rights in surface water vest in the Government.¹⁸

Statutory water law also includes a number of pre- and post-independence enactments in various areas. These include laws on embankments, drinking water supply, irrigation, floods,

¹⁴ Committee on Economic, Social and Cultural Rights, General Comment 15: The Right to Water (Articles 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].

¹⁵ Preamble, Canal and Drainage Act, 1873 (Act VIII of 1873).

¹⁶ Article 26, Madhya Pradesh Irrigation Act, 1931.

¹⁷ Section 3, Madhya Pradesh Regulation of Waters Act, 1949.

¹⁸ Section 3(a), Bihar Irrigation Act, 1997, available at <http://www.ielrc.org/content/e9703.pdf>.

water conservation, river water pollution, rehabilitation of evacuees and displaced persons, fisheries and ferries.

In general, water law is largely state based. This is due to the constitutional scheme, which since the Government of India Act, 1935 has in principle given power to the states to legislate in this area. Thus, states have the exclusive power to regulate water supplies, irrigation and canals, drainage and embankments, water storage, hydropower and fisheries.¹⁹ There are nevertheless restrictions with regard to the use of inter-state rivers.²⁰ Further, the Union is entitled to legislate on certain issues. These include shipping and navigation on national waterways as well as powers to regulate the use of tidal and territorial waters.²¹ The Constitution also provides that the Union can legislate with regard to the adjudication of inter-state water disputes.²² While no substantive clauses could be adopted at the time of the adoption of the Constitution, a specific act, the Inter-State Water Disputes Act was adopted in 1956.²³ This introduces a procedure for addressing disputes among states concerning inter-state rivers that have not been solved through negotiations. It provides for the establishment of specific tribunals to adjudicate such conflicts and has been used in several cases.²⁴ Parliament also enacted the River Boards Act, which provides a framework for the setting up of river boards by the Central Government to advise state government concerning the regulation or development of an inter-state river or river valley.²⁵ River boards can advise state governments on a number of issues including, conservation, control and optimum utilisation of water resources, the promotion and operation of schemes for irrigation, water supply or drainage or the promotion and operation of schemes for flood control.²⁶ This act has, however, never been used in practice.

While the intervention of the central government in water regulation is limited by the constitutional scheme, the importance of national regulation in water has already been recognised in certain areas. Thus, with regard to water pollution, Parliament did adopt an act in 1974, the Water Act.²⁷ This act seeks to prevent and control water pollution and maintain and restore the wholesomeness of water. It gives powers to water boards to set standards and regulations for prevention and control of pollution.

Besides statutory frameworks, a number of common law principles linking access to water and rights over land are still prevailing in India. These include separate rules for surface and groundwater. With regard to surface water, existing rules still derive from the early common rule of riparian rights. Thus, the basic rule was that riparian owners had a right to use the water of a stream flowing past their land equally with other riparian owners, to have the water come to them undiminished in flow, quantity or quality.²⁸ In recent times, the riparian right

19 Schedule 7, List 2, Entries 17 and 21, Constitution of India.

20 Schedule 7, List 1, Entry 56, Constitution of India.

21 Schedule 7, List 1, Entries 24, 25 and 57, Constitution of India.

22 Article 262, Constitution of India.

23 Inter-State Water Disputes Act, 1956, available at <http://www.ielrc.org/content/e5601.pdf>.

24 *See, e.g.*, Narmada Water Disputes Tribunal, Final Order and Decision of the Tribunal, 12 December 1979, available at <http://www.ielrc.org/content/c7901.pdf>.

25 River Boards Act, 1956, available at <http://www.ielrc.org/content/e5602.pdf>.

26 *Id.* Section 13.

27 Water (Prevention and Control of Pollution) Act, 1974, available at <http://www.ielrc.org/content/e7402.pdf>.

28 *Hanuman Prasad v. Mendwa*, AIR 1935 All 876.

theory has increasingly been rejected as the appropriate basis for adjudicating water claims.²⁹ Further, common law rights must today be read in the context of the recognition that water is a public trust.³⁰ If the latter principle is effectively applied in the future, it would have important impacts on the type of rights and privileges that can be claimed over surface water.

Common law standards concerning groundwater have subsisted longer. The basic principle was that access to and use of groundwater is a right of the landowner. In other words, it is one of the rights that landowners enjoy over their possessions. The inappropriateness of this legal principle has been rapidly challenged during the second half of the 20th century with new technological options permitting individual owners to appropriate not only water under their land but also the groundwater found under neighbours' lands. Further, the rapid lowering of water table in most regions of the country has called in question legal principles giving unrestricted rights to landowners over groundwater. Similarly, the growth of concerns over the availability of drinking water in more regions has led to the introduction of social concerns in groundwater regulation. As a result of the rapid expansion of groundwater use, the central government has tried since the 1970s to persuade states to adopt groundwater legislation.³¹ It is only over the past decade that some states have eventually adopted groundwater acts.³² The legal framework concerning groundwater is still in rapid evolution. It is likely that common law principles will be increasingly challenged despite the fact that the Plachimada high court decision seems to uphold landowners rights to a large extent like.³³ Further, groundwater is increasingly likely to be linked to surface water in the context of the setting up of water regulatory authorities that are called upon to manage surface and groundwater.³⁴

The existing legal framework concerning water is complemented by a human rights dimension. While the Constitution does not specifically recognise a fundamental right to water, court decisions deem such a right to be implied in Article 21 (right to life).³⁵ The right to water can be read as being implied in the recognition of the right to a clean environment. In *Subhash Kumar v. State of Bihar*, the Supreme Court recognised that the right to life 'includes the right of enjoyment of pollution free water and air for full enjoyment of life'.³⁶ In the *Sardar Sarovar* case, the Supreme Court went further and directly derived the right to

29 See, e.g., Chapters 8 and 9, Report of the Narmada Water Disputes Tribunal with its Decision in the Matter of Water Disputes Regarding the Inter-State River Narmada and the River Valley Thereof Between the States of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan (New Delhi: Government of India, vol. 1, 1979).

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

31 See, e.g., Model Bill to Regulate and Control the Development and Management of Ground Water, 2005, available at <http://www.ielrc.org/content/e0506.pdf>.

32 See, e.g., Kerala Ground Water (Control and Regulation) Act, 2002, available at <http://www.ielrc.org/content/e0208.pdf>; Andhra Pradesh, An Act to Promote Water Conservation, and Tree Cover and Regulate the Exploitation and Use of Ground and Surface Water for Protection and Conservation of Water Sources, Land and Environment and Matters, Connected Therewith or Incidental Thereto, 2002, available at <http://www.ielrc.org/content/e0202.pdf>; and Goa Ground Water Regulation Act, 2002, available at <http://www.ielrc.org/content/e0201.pdf>.

33 *Hindustan Coca-Cola Beverages (P) Ltd. v. Perumatty Grama Panchayat*, M. Ramachandran & K.P. Balachandran (JJ), 7 April 2005.

34 See, e.g., Maharashtra Water Resources Regulatory Authority Act, 2005, available at <http://www.lead-journal.org/content/05080.pdf>.

35 See generally S. Muralidhar, 'The Right to Water: An Overview of the Indian Legal Regime', in Eibe Riedel & Peter Rothen eds., *The Human Right to Water* 65 (Berlin: Berliner Wissenschafts-Verlag, 2006).

36 Paragraph 7, *Subhash Kumar v. State of Bihar*, AIR 1991 SC 420.

water from Article 21. It stated that '[w]ater is the basic need for the survival of the human beings and is part of right of life and human rights as enshrined in Article 21 of the Constitution of India'.³⁷ While the recognition of a fundamental right to water by the courts is unequivocal, its implementation through policies and acts is not as advanced.

Water law includes a number of other laws and regulations that are directly or indirectly concerned with water. One example concerns dams. Two major aspects of dam building are regulated by laws and regulations, which are only partly concerned with water. With regard to environmental impact assessment, the Environmental Impact Assessment Notification provides a framework for assessing the environmental impacts of planned big hydropower and irrigation projects.³⁸ Further, there are Guidelines for Environmental Impact Assessment of River Valley Projects, which provide a general framework since 1985 for assessing the impacts of planned big dam projects.³⁹ With regard to displacement, the main act that applies is still the Land Acquisition Act, 1894. This colonial act, which was enacted with the interests of the colonial government rather than the interests of displaced people in mind, gives the government significant control over the process of eviction and oustees very few rights.

In addition to all the laws, rules and regulation that make up water law, there is a substantial body of additional rules and regulations at the local level. These include the multiplicity of written or unwritten arrangements that regulate access to and use of water for domestic purposes or irrigation. An array of different rules govern, for instance, access to existing sources of drinking water. They run in many cases along caste lines even though other rules of access also exist. With regard to irrigation water, all human structures such as tanks and check dams include a system of allocation.⁴⁰ Rules of access and control have often evolved over long periods of time but are often unwritten or not formally recognised in the legal system. As a result, they often run in parallel to 'formal' water rules and regulations. Another consequence of the lack of visibility of local level arrangements is that they can easily be displaced or extinguished by new laws that may fail to even acknowledge their existence.

The general picture, which emerges is that of a multiplicity of principles and rules, a multiplicity of instruments and the lack of an overall framework. While certain principles have remained relatively constant until recently like the assertion of the state's right to use surface waters in the public interest, there have been a number of changes over time in the basic structure of water law, from the recognition of a human right to water to the introduction of the public trust doctrine. One general trend, which can be highlighted, is the gradual formalisation of water law. In most cases, this has had the effect of displacing or extinguishing existing local rules and arrangements. In other words, the introduction of water laws is often not done in a vacuum, as might be the case in certain other fields. This is due to the fact that water has always been of central importance in most communities and formal or informal rules, based on social, religious or castes have existed in most places for centuries.

³⁷ Paragraph 274, *Narmada Bachao Andolan v. Union of India*, Writ Petition (Civil) No. 319 of 1994, Supreme Court of India, Judgment of 18 October 2000, AIR 2000 SC 3751, reproduced in Philippe Cullet ed., *Sardar Sarovar Dam Project: Selected Documents* (Aldershot: Ashgate, forthcoming 2007).

³⁸ Notification on Environmental Impact Assessment of Development Projects, 2006.

³⁹ Guidelines for Environmental Impact Assessment of River Valley Projects, 1985, available at <http://www.ielrc.org/content/c8503.pdf>.

⁴⁰ For Tamil Nadu, see, e.g., A.Gurunathan & C.R.Shanmugham, Customary Rights and their Relevance in Modern Tank Management: Select Cases in Tamil Nadu (Paper prepared for the workshop 'Water, Law and the Commons', Delhi, 8-10 December 2006, International Environmental Law Research Centre).

2. Towards Water Law Reforms

Water law has been continuously evolving. Yet, the evolution witnessed over the first four decades after independence must be distinguished from recent and ongoing trends. While until the 1970s, water law can be seen as a field growing organically around issues and principles that were largely well settled, the past couple of decades have witnessed the beginning of a fundamental shake-up of water law. This is taking the form of reforms, which are changing and will change existing water law as well as expand the scope of regulation.

The reasons for water law reforms include physical as well as institutional reasons. Over the past decades, the water situation has become increasingly dire in many parts of the country. This is due to increased use of water by all categories of water users, to increased demand due to economic and population growth. This is also due to increased pollution of existing finite water resources, which not only restrict potential uses of available water but also threaten future use. One of the specific problems that have arisen is the dramatic increase in groundwater use, which has led to depletion in many areas.

Increasing use of water has led to a number of suggestions to remedy the situation. This includes new strategies to cope with all the various water-related issues. Water pollution has been addressed through the introduction of environmental measures to control and reduce it. Access to domestic water has been the object of various governmental and other programmes. The provision of irrigation water and water to cities has, for instance, been taken up in the context of the construction of large dams.

There have also been progressive calls for changes of the law and policy framework concerning water. This is due to two broad factors. Firstly, the water law and policy framework was for a long time the object of relatively little attention. While many water-related laws were adopted over several decades, comparatively little was done to provide a broader integrated framework for water. Secondly, the recognition that there is a water crisis in most countries of the world and that availability of and access to freshwater will be a challenge for nearly all countries in coming decades has led to a number of international initiatives to reform water governance, law and policy in most developing countries. In other words, domestic and international factors have contributed to ongoing water law and policy reforms.

Water sector reforms have been proposed 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. Current reforms seek in particular to reduce the role played by the public sector and to emphasise the direct contributions of individuals to their water needs and the participation of the private sector.

These governance changes are underpinned by a number of principles, which guide the reform process. This section highlights some of the main principles guiding the reforms and the kinds of measures and instruments adopted to implement them.

2.1 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 existing unsustainable uses of water.⁴¹ 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 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.⁴² This message is also found in the recent draft World Bank report stressing out that India has not developed enough big water infrastructure.⁴³

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, the absolute rights that the state may claim over water.⁴⁴ 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.⁴⁵ 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.⁴⁶

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.⁴⁷ 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.⁴⁸ This strategy is already being implemented in the context of irrigation water where farmers are made to pay for operation and maintenance costs.⁴⁹ 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 drinking water infrastructure and full responsibility for operation and maintenance.⁵⁰

41 See, e.g., Dublin Statement on Water and Sustainable Development, International Conference on Water and the Environment, Dublin, 31 January 1992.

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

43 John Briscoe & R.P.S. Malik, *India's Water Economy: Bracing for a Turbulent Future* (New Delhi: The World Bank and Oxford University Press, 2006).

44 See, e.g., Section 26, Madhya Pradesh Irrigation Act, 1931 and Section 3, Madhya Pradesh Regulation of Waters Act, 1949.

45 See, e.g., Section 17(1)d, Uttar Pradesh Water Policy, 1999.

46 Section 4(2), Maharashtra State Water Policy, 2003.

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

48 See, e.g., Section 11, National Water Policy, 2002.

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

50 Section 3(1), Ministry of Rural Development, Guidelines on Swajaldhara, 2003.

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.⁵¹ Further, cost recovery is, for instance, seen by the Asian Development Bank as the first instrument for conserving water.⁵²

2.2 Decentralisation and Participation

Water sector reforms are also based on the need to foster decentralisation and participation that involves water users.⁵³ 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.⁵⁴ 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.⁵⁵ 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.⁵⁶

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. With regard to irrigation, the focus has been on land ownership and occupation as a basis for governing the use and control of water. With regard to drinking water, new measures put the ability to pay as the governing principle. Both measures are likely to reinforce existing inequalities in access to water.

Two different types of measures have been introduced to foster participation with regard to irrigation water and drinking water. The rest of this section examines water user associations set up to foster participation in irrigation and Swajaldhara, a scheme devised to foster participation of users in drinking water provision.

Water user associations schemes (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

⁵¹ Section 2(b), World Bank, Water Resources Management (OP 4.07, February 2000).

⁵² See Section E, Asian Development Bank, Water for All – The Water Policy of the Asian Development Bank (2003) whose first sub-section – number 43 – is entitled cost recovery.

⁵³ Dublin Statement on Water and Sustainable Development, International Conference on Water and the Environment, Dublin, 31 January 1992.

⁵⁴ See, e.g., Section 6(8), National Water Policy, 2002.

⁵⁵ Section 37, Asian Development Bank, Water for All – The Water Policy of the Asian Development Bank (2003).

⁵⁶ See, e.g., Section 17(1), Uttar Pradesh Water Policy, 1999.

bankrupt. Further, WUAs are in most cases subject to regulatory control by the state because they are deemed to provide a service of benefit to the public.⁵⁷

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.⁵⁸ 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.⁵⁹ 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'.⁶⁰ 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 landholders 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.

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. This includes a number of functions which include 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

⁵⁷ See Stephen Hodgson, *Legislation on Water Users, Organizations – A Comparative Analysis* (Rome: FAO, FAO Legislative Study 79, 2003).

⁵⁸ Andhra Pradesh Farmers Management of Irrigation Systems Act, 1997; Madhya Pradesh Sinchai Prabandhan Me Krishakon Ki Bhagidari Adhinyam, 1999; Orissa Pani Panchayat Act, 2002 and Rajasthan Farmers' Participation in Management of Irrigation Systems Act, 2000.

⁵⁹ Section 4, Maharashtra Management of Irrigation Systems by Farmers Act, 2005, available at <http://www.ielrc.org/content/e0505.pdf>.

⁶⁰ *Id.* Section 5(5).

maintenance and repairs to the canal system and the resolution of dispute among members.⁶¹ 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 landholders that has no democratic legitimacy can perform all these tasks in an equitable and sustainable manner for its members and for the broader society around it. To take one example, while there are now a number of rules attempting to ensure the participation of women and lower castes in PRIs, it is 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.⁶²

In addition to the setting up of WUAs, the union government has proposed a scheme known as Swajaldhara, which proposes to foster new 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.⁶³ 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'.⁶⁴ 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.

61 *Id.* Section 52.

62 *Id.* Section 4(2).

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

64 Section 1(2), Ministry of Rural Development, Guidelines on Swajaldhara, 2003.

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.

2.3 Redefinition of 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.⁶⁵ 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.⁶⁶ 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.⁶⁷ An area, which is singled out for private sector participation, is urban water supply.⁶⁸

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 seeks to either 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.⁶⁹ This is now being taken up in the context of the mammoth river inter-linking scheme.⁷⁰ At the state level, an increasing number of states are seeking to control and regulate groundwater to foster its conservation and sustainability in its use.

⁶⁵ See, e.g., Section 6(7), Karnataka State Water Policy, 2002.

⁶⁶ Section 1(3), Maharashtra State Water Policy, 2003.

⁶⁷ See, e.g., Section 38, Asian Development Bank, note 54 above and Section 13, National Water Policy, 2002.

⁶⁸ See, e.g., Section 9, Rajasthan State Water Policy, 1999.

⁶⁹ See, e.g., Section 3(5), National Water Policy, 2002.

⁷⁰ See, e.g., Government of India – Ministry of Water Resources, Resolution No. 2/21/2002-BM, New Delhi, 13 December 2002.

The redefinition of the role of the government in the water sector has, for instance, been taken up in the context of the setting up of water regulatory authorities 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 1997.⁷¹ 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 most recent act setting up an independent water institution, the Maharashtra Water Resources Regulatory Authority Act, 2005 is quite different from the former and it is in fact expected that the latter act will be amended in view of the new scheme.

Firstly, under the Maharashtra Act, it has been attempted to completely exclude political leaders from the power structure. However, while the 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.

Secondly, the Maharashtra authority has broad prerogatives 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.⁷² 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 based on the principle of full cost recovery of management, administration, operation and maintenance of irrigation projects. The authority is also called upon to lay down criteria for the issuance of water entitlements. Further, it has to set up criteria for trading in water entitlements or quotas.⁷³

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.⁷⁴ 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 the setting up of an independent authority, this does not necessarily translate into less regulatory intervention

⁷¹ 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, available at <http://www.ielrc.org/content/e9702.pdf>. [hereafter Andhra Water Corporation Act].

⁷² *Id.* Section 11.

⁷³ *Id.* Section 11(i)i.

⁷⁴ Section 14, Maharashtra Water Resources Regulatory Authority Act, 2005, available at <http://www.lead-journal.org/content/05080.pdf>.

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.

2.4 Conservation

The increasing depletion of water resources, in particular groundwater, has led to the realisation that existing rules concerning the use of groundwater were unadapted to a situation of scarcity. As a result, the central government has put significant emphasis on the development of groundwater laws by the states. Regulatory intervention is premised on the need to control the use of groundwater to ensure that it is not unsustainably mined.

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.⁷⁵ 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 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 2005,⁷⁶ 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. As a result, the following paragraphs focus on the model bill since it provides the framework that a number of 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. The authority is given the right to notify areas where it is deemed necessary to regulate the use of groundwater. The final decision is taken by the respective state government.⁷⁷ There is no specific provision for public participation in this scheme. In any notified area, every user of groundwater must apply for a

⁷⁵ United Nations World Water Development Report – Water for People, Water for Life (United Nations, Doc. E.03.II.A.2, 2003).

⁷⁶ Model Bill, note 31 above.

⁷⁷ Section 5, Model Bill, note 31 above.

permit from the authority unless the user only proposes to use a hand pump or a well from which water is withdrawn manually.⁷⁸ 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.⁷⁹ It is noteworthy that even in non-notified areas, any wells sunk need to be registered.⁸⁰

The model bill provides for the grandfathering of existing uses by only requiring the registration of such uses.⁸¹ 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 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.

Final Remarks

Water law is made of a number of formal and informal laws, rules and principles. It has evolved over time in a relatively uncoordinated and ad hoc manner. This started to change with the progressive realisation that existing laws were inappropriate to ensure access to water to all for domestic purposes and inappropriate because of the fast increasing use of a finite resource. Over the past couple of decades, a more coordinated effort at changing water law has been put in place. This is based on a relatively specific set of principles that are meant to guide the overall development of water law. This is meant to make water law suitable to face the challenges of the water sector in the 21st century.

While water law reforms are more than welcome given existing problems with water, it is unlikely that law reforms based on the principles put forward in the water sector reforms constitute an appropriate response. Ongoing water law reforms may contribute to enhancing

⁷⁸ Section 6, Model Bill, note 31 above.

⁷⁹ Section 6(5)a, Model Bill, note 31 above only provides that the purpose has to be taken into account while Section 6(5)h which is the only sub-section referring to drinking water only considers it as an indirect factor.

⁸⁰ Section 8, Model Bill, note 31 above.

⁸¹ Section 7, Model Bill, note 31 above.

water management but they are conceptually incapable of addressing the human right, social, environmental and health aspects of water. This is regrettable because any water law, which is not based on the constitutional right to water and the principle of public trust, is bound to fail as a legal tool and in its implementation as far as the overwhelming majority of people is concerned.

Yet, avenues do exist to broaden reforms of water law. At the international level, some treaties are leading the way towards conceiving water law more broadly. Thus, the UN Economic Commission of Europe has adopted a convention, which is broader than the 1997 UN Convention in scope insofar as it applies to transboundary waters in general. It is also based on a more progressive set of principles. This includes not only the fact that it strongly emphasise the need to prevent and reduce transboundary harm but also that it is based on the precautionary principle and inter-generational equity. The UNECE convention reflects much more than the UN convention developments in environmental law and related principles that have come to inform all treaties concerning environment and development issues. The convention is also opened to universal membership even though other states have not ratified it yet. Similarly, at the national level, countries such as Brazil and South Africa have adopted water laws that seek to provide a comprehensive regulatory answer to the problems identified. While the adoption of a comprehensive federal water legislation is not a precondition to ensure that water law achieves its social, human rights and environmental goals, this would constitute an appropriate starting point to realise the right to water and the principle of public trust throughout the country.

PRIYA SANGAMESWARAN, DISCOURSES IN WATER AND WATER REFORM IN WESTERN INDIA

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 services¹ 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.

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.

¹ 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.

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 decade² 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 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

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

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 desalination) 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.³ The right to water is not fully defined by existing

³ 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

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 (UNESCO, 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.⁴ 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 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).

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.

⁴ For a review of different conceptualisations of the right to water, see Sangameswaran (2007).

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 UNESCO, 2002 and UNESCO, 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 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)⁵ 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 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

5 ARWSP is a supply-driven scheme introduced in 1972-73.

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),⁶ 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

⁶ The MSWP is technically not legislation, but a policy that is supposed to influence legislation.

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 irrigation⁷ 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). 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),⁸ 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 on-going 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 water awarded to it by the Bacchawat interstate water dispute tribunal.⁹ 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

⁷ 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).

⁸ 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).

⁹ 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).

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 water 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 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 MWRRRA, 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 MWRRRA. 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 taken place in both urban and rural areas; however, the focus of this paper will be on 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.¹⁰ 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* system¹¹ in North-west Maharashtra), the recent genesis of the Participatory Irrigation Management program can be traced to the formation of co-operatives in the late 1980s by NGOs such as the Centre for Applied Systems Analysis in Development (CASAD). 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 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).

¹⁰ 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.

¹¹ 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.

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.¹² 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).¹³

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 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.

¹² The discussion in this paragraph draws on a personal communication with K. J. Joy (12 December 2005).

¹³ This in turn brings into question even the extent to which the irrigation corporations represent a trend towards privatization.

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 reforms), and the presence of certain all-pervasive themes (core messages of different discourses such as scarcity).¹⁴ 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 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).

¹⁴ This point draws partly on a discussion comment by M.Roopa at the Workshop on 'Water, Law and the Commons' organised by the International Environmental Law Research Centre at PRIA, New Delhi, 8-10 December, 2006.

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 continue 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 service-delivery 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.¹⁵ The two legislations that were passed three years later to actually operationalise some aspects of the MSWP – the MMISFA and the MWRRRA – had 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.¹⁶

However, the MWRRRA 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 working 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

¹⁵ Interview with Seema Kulkarni on 11 June 2004.

¹⁶ 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, 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.

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).¹⁷ 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 alone 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.

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, the extent to which this ‘commitment’ is enforceable is limited. 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. With the change in regulations, it is not clear what space there will be for the kind of negotiations that used to take place in the past.¹⁸ While there is some

¹⁷ The two-child norm will be discussed later in this section.

¹⁸ Thanks to Suhas Paranjape (personal communication) for drawing my attention to this point.

option for redress (via a dispute resolution mechanism), its adequacy in the face of the powers of the MWRRA remains to be seen.

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. 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 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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III. INTERNATIONAL DIMENSIONS

ALIX GOWLLAND GUALTIERI, SOUTH AFRICA'S WATER LAW AND POLICY FRAMEWORK: IMPLICATIONS FOR THE RIGHT TO WATER

Introduction

The post-apartheid reforms in South Africa which put into place the existing water framework were intended to redress the disparities inherited from the prior racial segregation policies which had resulted in stark inequalities between black and white communities in the face of access to water.¹ The natural scarcity of national freshwater resources have also contributed to diminishing availability of water and increasing competition between the various users. Consequently, water reform policy and water justice were a central aspect of the new government's policy of reconstruction and development² and indeed remain very topical issues a decade later.

South Africa has adopted a progressive law and policy framework for water which is based upon the constitutional recognition of the right of access to water. This paper examines some of the implications of the constitutional right to water. While on the one hand the implementation of the right to water has resulted in the development of a policy of free entitlement to water for consumption and domestic use, there remain today huge disparities in access to basic water services and allocation of water, mostly as a legacy from the apartheid regime but also as the result of the application of an economic approach to water policy. Indeed, the integration of such concepts as cost-recovery and privatisation in water policy have contributed to maintain the poorest segments of the population with little or no access to water for household needs and sanitation, and limited water infrastructure. This creates tensions that underpin the management of water resources at the national level. In terms of water policy, it seems therefore that radical legal change has not translated into significant, substantive improvements for the majority of the poorest citizens.

The paper is divided into three main sections. The first section examines the right of access to water as it is consecrated in the country's constitution. In a second part, it focuses on the implementation of the constitutional right, inter alia through the adoption in 2001 of the Free Basic Water policy. The paper turns in a third section to some of the challenges observed in the realisation of the right to water. These relate more specifically to the application of economic policies to water that characterises the South African water framework.

1 On the history of water in South Africa, see, e.g., R. Francis, 'Water Justice in South Africa: Natural Resources Policy at the Intersection of Human Rights, Economics, and Political Power', 18 *Georgetown Intl Env'tl L.Rev.* 149 (2005); D.D. Tewari, 'A Brief Historical Analysis of Water Rights in South Africa', 30 *Water International* 184 (2005).

2 See, e.g., South Africa, White Paper on Water Supply and Sanitation Policy (1994) [hereafter 1994 White Paper]; South Africa, White Paper on Reconstruction and Development (1994) [hereafter 1994 White Paper on Reconstruction and Development]; South Africa, White Paper on a National Water Policy for South Africa (1997) [hereafter 1997 White Paper].

1. Constitutional Protection of the Right to Water

South Africa is remarkable in that it formally recognised the right of access to water at the constitutional level, where it underpins the whole law and policy water framework.³ The constitution adopted on 8 May 1996 represented the cornerstone of the sweeping water policy reform that was undertaken in the period of transition following the end of the apartheid regime.⁴ It embraces human rights principles and contains a comprehensive bill of rights which sets forth the right of access to water as part of a lengthy list of social and economic rights. These include inter alia the right to a healthy environment; housing; health care, food and social security; education; and culture.⁵ The relevant provision is Section 27, which reads:

‘(1) Everyone has the right to have access to

[...]

b. sufficient [...] water; and

[...]

(2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights [...].’

The inclusion of the right to water goes beyond the main international human rights instruments, namely the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, where it is not explicitly mentioned.⁶ The right to water was only officially recognised at the international level with the adoption by the Committee on Economic, Social and Cultural Rights of General Comment 15 on the right to water.⁷ General Comment 15 sets forth the right to water as a fundamental one because a necessary component of the right to an adequate standard of living and to the right to health found in articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights.

3 Since 1994, the constitution of Uruguay includes the right of access to potable water and to sanitation. See article 47, Uruguay, Constitución política de la República Oriental del Uruguay de 1967 (actualizada hasta la reforma del 31 de Octubre de 2004). See also Article 65 (right to water and sanitation) of the draft Constitution of Kenya (2005). Other countries that have included the right to water in their constitutions include Ecuador, Ethiopia, Gambia, Uganda and Zambia. There have also been efforts to include the human right to water in the Belgian constitution.

4 South Africa, Constitution of 1996 (Constitution Act 108, 1996) [hereafter 1996 Constitution].

5 *Id.* at Sections 24, 26, 27, 29 and 31. On the inclusion of environmental rights in the South African Constitution, see, e.g., J. Glazewski, ‘Environmental Rights and the New South African Constitution’, in A. Boyle and M. Anderson, *Human Rights Approaches to Environmental Protection* 177 (Oxford: Clarendon Press, 1996).

6 Using the South African constitutional recognition of the right to water as supporting the existence of an international right, see, e.g., P.H. Gleick, ‘The Human Right to Water’, 1 *Water Policy* 487, 494 (1998).

7 Committee on Economic, Social and Cultural Rights, General Comment 15: The Right to Water (Articles 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]. A detailed study of the scope and content of the human right to water will be submitted by the Office of the United Nations High Commissioner for Human Rights prior to the sixth session of the Human Rights Council. See Human Rights Council, Implementation of General Assembly Resolution 60/251 of 15 March 2006 Entitled ‘Human Rights Council’, UN Doc. A/HRC/2/L.3/Rev.3 (2006).

The 1996 Constitution binds all three spheres of government to realise the right of access to water. The content of the right relates both to allowing for physical and for economic access to water. This obligation is qualified by the fact that the state has to take only 'reasonable' legislative and other measures 'within its available resources' to achieve the 'progressive realisation' of the right of access to water.⁸ The Constitution does not provide for the right of individuals to access water, but rather places an obligation on the government to take reasonable action to give effect to the general rights of the population. While the national government is required to establish a framework to ensure the realisation of this right, local governments have the responsibility to ensure the delivery of water to their communities. The 1996 Constitution also addresses the question of limiting rights, providing that constitutional rights may only be limited 'to the extent that the limitation is reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom, taking into account all relevant factors [...]'.⁹ Relevant factors include inter alia the nature of the right and the importance and purpose of the limitation.

The question of whether the social and economic rights enshrined in the Constitution are justiciable has been a central one when addressing the implications of the right to water.¹⁰ While the Constitutional Court has not yet ruled on a case concerning the right to water, a lower court has found that an alleged violation of the right is indeed a justiciable matter.¹¹ In 2000, the Constitutional Court adopted the so-called 'Grootboom' decision, which concerned the justiciability of the right of access to housing.¹² The case addressed more specifically what is entailed by the obligation of the state to take reasonable legislative and other measures within the available resources of the state so as to progressively fulfil socio-economic rights.¹³ It focused on whether the government's housing policy made provision for persons whose housing needs were the most desperate and reviewed the failure of a particular housing programme to assist a group of people evicted from their homes in light of the right to adequate housing. The Court found the government in violation of the Constitution for failing to provide immediate housing for the most desperate and needy segments of the population. The case is important in describing how state policies can be reviewed by a court on the basis of reasonableness. The reasonableness inquiry examines first whether responsibilities and tasks have been allocated to the different spheres of government and whether appropriate financial and human resources are available. Second, it dictates that programmes for socio-economic rights obligations must be balanced and flexible, and include the appropriate provision for responding to crisis situations. While the Constitutional Court has found that socio-economic rights are justiciable, its case-law shows that it is difficult to prove a violation of the Constitution, in particular because the plaintiff bears the burden of proving

⁸ Section 27 (2), 1996 Constitution, note 4 above. *Note* that Section 28 (1)(c), which concerns the right of 'every child [...] to basic nutrition, shelter, basic health care services and social services', does not include such a qualification.

⁹ *Id.* at Section 36 (1).

¹⁰ Traditionally, only civil and political rights have been considered justiciable. *See, e.g.*, S. Liebenberg, 'The Value of Human Dignity in Interpreting Socio-Economic Rights', 21 *South African J. Human Rts* 1; M. Swart, 'Left Out In The Cold? Crafting Constitutional Remedies For The Poorest Of The Poor', 21 *South African J. Human Rts* 215 (2005).

¹¹ *See Highveldridge Residents Concerned Party v Highveldridge Transitional Local Council* [2002] 6 SA 66 (T).

¹² *See South Africa v Grootboom* [2000] 11 BCLR 1169 (CC). Discussing different interpretations that have been assigned to the judgment, *see, e.g.* M. Wesson, 'Grootboom and Beyond: Reassessing the Socioeconomic Jurisprudence of the South Africa Constitutional Court', 20 *South African J. Human Rts* 284 (2004).

¹³ *See also* C. Steinberg, 'Can Reasonableness Protect the Poor? A Review of South Africa's Socio-economic Rights Jurisprudence', 23 *South African L.J.* 264 (2006).

that the government's actions are unreasonable. This might constitute a significant obstacle to bringing a case based on alleged violations of the constitutional right to water.

The right to water found in the Constitution has been concretised in a number of legislative and policy documents adopted as part of the restructuring of the water framework. The two main acts are the 1997 Water Services Act (WSA) and the 1998 National Water Act (NWA).¹⁴ The Constitution allocates the management of water resources to the national government, while local governments (municipalities) are responsible for the management of water and sanitation services. Accordingly, the NWA creates a comprehensive legal framework for the management of water resources, that is, rivers, streams, dams and groundwater, which is the responsibility of the national government. On the other hand, the WSA regulates water services which remain the responsibility of local government.¹⁵ This covers drinking water and sanitation services supplied by municipalities to households and other municipal water users. Other important documents include regulations adopted to give effect to the right of access to water, most recently the 2003 Strategic Framework for Water Services, which sets out the national framework for the water services sector, that is, water supply and sanitation.¹⁶

2. Implementation of the Right to Water in National Law and Policy

2.1 Guiding Principles

The NWA, which was adopted in 1998, is the principle legal instrument relating to water resources. It transformed South Africa's water legal framework by setting forth a comprehensive agenda for water resource management. The Act is built on several guiding principles that aim to remedy past inequalities in the face of water distribution and further the realisation of the right of access to water. On the other hand, it does adopt or facilitate the application of economic approaches to water management.¹⁷

The preamble to the NWA embraces the human rights principles found in the 1996 Constitution, recognising that 'the ultimate aim of water resource management is to achieve the sustainable use of water for the benefit of all users.' The main purpose of the Act is to 'ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors': 'meeting the basic human needs of present and future generations'; 'promoting equitable access to water'; 'promoting the efficient, sustainable and beneficial use of water in the public interest'; 'facilitating social and economic development'; and 'protecting aquatic and associated ecosystems and their biological diversity'.¹⁸

On this basis, four basic principles can be seen as underlying the water resource management strategy set out under the NWA. First, the Act rests on the principle of the unity of the hydrological cycle. It does not include a distinction between surface and groundwaters but

14 South Africa, Water Services Act 108 (1997) [hereafter WSA]; South Africa, National Water Act 36 (1998) [hereafter NWA].

15 On the relationship between the two aspects, the preamble to the WSA, n. 14 above, provides that 'the provision of water supply services and sanitation services, although an activity distinct from the overall management of water resources, must be undertaken in a manner consistent with the broader goals of water resource management'.

16 South Africa, *Strategic Framework for Water Services* (2003) [hereafter 2003 Strategic Framework].

17 See further Section III below.

18 Article 2, NWA, note 14 above.

subsumes all water resources including watercourses, surface waters, estuaries and aquifers, recognizing that these are all linked to each other.¹⁹ Water management strategies must therefore be based on the principle of integrated management in order to achieve sustainability, equity and efficiency.²⁰ According to the national agency responsible for formulating and implementing water policy, the Department of Water Affairs and Forestry (DWAF):

‘Integrated water resource management is a process for co-ordinated planning and management of water, land and environmental resources. It takes into account the amount of available water (surface and groundwater), water use, water quality, environmental and social issues as an integrated (combined) whole to ensure sustainable, equitable and efficient use [...] A further key aspect of integrated water resource management is participation of people in decision making where decisions are decentralised.’²¹

A second principle that buttresses the NWA is that the nation’s water resources are managed through a public trust which is created to replace private ownership.²² The national government acting through the Minister of Water Affairs and Forestry is the public trustee.²³ As the trustee, the government must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons, and in accordance with its constitutional mandate.

Third, the NWA bases the comprehensive protection of all water resources on the need to protect basic human and ecological needs. For this purpose, it creates the ‘Reserve’ which is meant to fulfil the constitutional right of access to water. The Reserve consists first of a basic human needs reserve, which ‘provides for the essential needs of individuals served by the water resource in question and includes water for drinking, for food preparation and for personal hygiene’ and second of an ecological reserve, which ‘relates to the water required to protect the aquatic ecosystems of the water resource.’²⁴ This is the only right to water found in the NWA and it has priority over all other water uses; in other words, the amount of water required for the Reserve must be ensured before water resources are allocated to other water users.

Fourth, the NWA de-links water rights and land ownership. It replaces the previous riparian system of allocation, which linked water rights to land ownership, with a compulsory licensing regime to achieve more equitable water redistribution in the population.²⁵ The de-

¹⁹ *Id.* at Article 1 (1)(xxvii).

²⁰ On integrated water management, *see, e.g.*, Paragraphs A(d)-(g), Commission on Sustainable Development (CSD), Resolution 13/1: Policy options and practical measures to expedite implementation in water, sanitation and human settlements, *in* Report on the thirteenth session, 30 April 2004 and 11-22 April 2005, UN Doc. E/2005/29 and E/CN.17/2005/12 (2005).

²¹ South Africa, Department of Water Affairs and Forestry (DWAF), Guide to the National Water Act, 15 [hereafter Guide to the NWA].

²² Article 3, NWA, note 14 above.

²³ According to the DWAF, ‘[p]ublic trustee means that the Minister has authority over water throughout the country. Water is a natural resource that belongs *to all people*. As the public trustee of the nation’s water resources, the Minister is responsible for public interest and must ensure that all water everywhere in the country is managed for the benefit of all people, including future generations.’ [emphasis in text]. *See* Guide to the NWA, note 21 above at 12.

²⁴ Chapter 3, part 3, NWA, note 14 above. *See* also Article 1 (1)(xviii). *See* further note 28 below and related text.

²⁵ Chapter 4, part 1, NWA, note 14 above.

linking of water use claims and land ownership is necessary in ensuring that those not owning or controlling land have equal access and use of water.²⁶

2.2 Accessibility of Water

The WSA is the instrument that regulates the accessibility of water by domestic users. It secures the right of access to basic water supply and basic sanitation necessary to ensure sufficient water and an environment not harmful to health or well-being, thereby codifying Section 27, Paragraph 1(b), of the Constitution.²⁷ The WSA defines ‘basic water supply’ as ‘the prescribed minimum standard of water supply services necessary for the reliable supply of a sufficient quantity and quality of water to households, including informal households, to support life and personal hygiene’.²⁸ The contours of the notion of basic supply have been determined in later regulations issued by the DWAF. These provide that the minimum standard for basic water supply services subsumes inter alia a minimum quantity of potable water of 25 litres per person per day or six kilolitres per household per month, available within 200 metres of a household and with an effectiveness such that no consumer is without a supply for more than seven full days in any year.²⁹ The 2003 Strategic Framework confirms the constitutional duty of the government to ensure that all people have access to at least a basic water supply and sanitation service which is affordable, and provides that the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of the right of access to water.³⁰ In particular, the Strategic Framework defines ‘basic water supply facility’ and ‘basic water supply supply’.³¹ The government has determined that this basic amount of water should be available for free for each individual. This is discussed in the next section.

The WSA stipulates that water service authorities have the duty to all consumers or potential consumers in their area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services.³² This duty is subject to, inter alia, the availability of resources, equitable allocation of resources to all current and potential consumers and the duty of consumers to pay reasonable charges.³³ A water service authority may not unreasonably refuse or fail to give access to water services to a consumer or potential consumer in its area of jurisdiction, but may impose reasonable limitations on the use of water services.³⁴ It however provides that in emergency situations, an authority must take reasonable steps to provide basic water supply and sanitation to all persons and may do so at the cost of the authority.³⁵ Disconnections of water services, and the criteria set forth under the WSA, are discussed below.

The WSA also provides for certain provisions on transparency, for instance stipulating that every water service authority must prepare and report on the implementation of a water

26 Although there do exist exceptions to this rule that allow existing lawful water use. See Chapter 4, Part 3, NWA, note 14 above.

27 See Preamble and Section 3 (1), WSA, note 14 above.

28 *Id.* at Section 1 (iii).

29 See Paragraph 6.5.3, 1997 White Paper, note 2 above; Paragraph 3, DWAF, Regulations Relating to Compulsory National Standards and Measures to Conserve Water (2001) [hereafter 2001 Regulations].

30 Paragraph 4.1, 2003 Strategic Framework, note 16 above.

31 *Id.* at Paragraphs 5.1 and 5.2.

32 Sections 3 (2) - (3) and 11 (1), WSA, note 14 above.

33 *Id.* at Section 11 (2).

34 *Id.* at Section 11 (6).

35 *Id.* at Section 11 (5).

services development plan.³⁶ Amongst other things, the development plan must indicate the number and location of people to whom services cannot be provided in the next five years, the reasons for this and a time-frame within which basic water and sanitation may reasonably be expected to be provided to these persons.³⁷ The Act also stipulates that if the water services provided by a water services institution are unable to meet the requirements of all its existing consumers, preference must be given to the provision of basic water supply and basic sanitation to them.³⁸

The WSA contains criteria applicable to the quality of water.³⁹ Regulations under the Act require that water service authorities include a suitable programme to sample the quality of potable water provided by it to consumers in its development plan. The WSA also requires that no person may dispose of industrial effluent without approval from the requisite authority.⁴⁰ It empowers the national government to set compulsory national standards relating to the quality of the water discharged into any water services or water resource system.⁴¹ Regulations also address responsibilities of water services institutions to carry out measures to prevent entry of objectionable substances into drains and watercourses.

2.3 The Free Basic Water Policy: Towards Implementation of the Right to Water

The implementation of the constitutional right of access to water, and commitment of the national government to its realisation, was taken a step further in February 2001 with the formal adoption of the policy of Free Basic Water.⁴² The Free Basic Water policy targets the water needs of the most impoverished citizens by guaranteeing each household a free minimum quantity of potable water. This quantity is set at six kilolitres per household per month. These regulations are based on the assumption that each individual person needs 25 litres of water per day. The amount of free water is the same for every household, irrespective of wealth and number of persons comprising it.

Rather than a new policy as such, the Free Basic Water policy was perceived ‘as a vehicle for expedient delivery by [the South African government] within context of [the] Constitution and the fundamental rights to basic services.’⁴³ Hailed as part of the government’s strategy to alleviate poverty and improve public health, the policy was a response to the significant problems that remained with respect to access to basic water and sanitation services of large parts of the population. Although strides had been made since the end of apartheid in providing citizens with basic water supplies, government figure show that in 2001 11 percent of the population still had no access to safe water supply, a further 15 percent did not have defined basic service levels and 41 percent did not have adequate sanitation services.⁴⁴ The 2000-2001 massive outbreak of cholera in Kwazulu-Natal and other parts of the country

36 *Id.* at Sections 12, 15 and 18.

37 *Id.* at Section 13.

38 *Id.* at Section 5.

39 *Id.* at Section 9 (1)(a).

40 *Id.* at Section 7 (2).

41 *Id.* at Section 9 (1).

42 *See* South Africa, DWAF, Free Basic Water Implementation Strategy Document (2001) [hereafter FBW Implementation Strategy].

43 Statement by the DWAF [available at http://www.dwaf.gov.za/DIR_ws/ASP/Include/IE_Content.asp?mnuID=mnuIntervention&path=/DIR_ws/Content/ops/FreeWater.htm]. *See* also Paragraph 2.6.6, Reconstruction and Development Programme; 1994 White Paper, note 2 above at p. 15.

44 *See* 2003 Strategic Framework, note 16 above at p. iii.

which killed several hundred people had brought the critical situation faced by millions of citizens to the forefront of national and international attention.⁴⁵ Many blamed the government policies of full cost-recovery for water⁴⁶ and consequent lack of access to water by the poor, including the residents of the district where cholera first appeared. The Free Basic Water policy can also be seen to arise in the wake of the Constitutional Court's Grootboom decision, which entrenched the justiciability of the social and economic rights found in the Constitution.⁴⁷ It has however been strongly opposed by private operators and multilateral financial institutions.

Although it is a policy of the national government, the responsibility for implementation of the Free Basic Water policy rests with local governments which are responsible for the delivery of basic services.⁴⁸ The national government however provides support to local governments to ensure that they have the capacity to implement the policy. Free basic water services are to be financed from the local government equitable share, which is a constitutionally required portion of the annual national budget allocated to local governments, as well as through cross-subsidisation between users within a system of supply or water services authority area where appropriate.⁴⁹ In order to ensure the financial sustainability of the provision of free water, municipalities are required to adopt a block tariff system. According to this system, the cost of water increases with usage, subject to the requirement that the first block of water for up to six kilolitres per household per month should be provided free. The price of water then increases for every additional block of water used by a household to ensure that those who use large amounts of water subsidise to some extent the free provision of six kilolitres of water for all households. Thus, 'the free basic water policy strengthens the ["user pays" principle] in that it clearly requires consumption in excess of the *basic water supply service* to be paid for while enabling free access by the poor to a basic water supply service necessary to sustain life.'⁵⁰ The stated overall target of the government is to provide all people with free basic water by 2008.⁵¹

The idea behind the Free Basic Water policy is an ambitious and progressive one. It implies that every person has the right to an affordable, basic amount of water and access to sanitation services in line with the constitutional requirement to progressively realise access to water for all South Africans. The implementation of the policy has nevertheless faced serious obstacles which have prevented it to date from remedying the existing inequalities in the face of water and sanitation provision. Several shortcomings can be mentioned.

45 See, e.g., D. Hemson et al., *Still Paying the Price: Revisiting the Cholera Epidemic of 2000-01 in South Africa* (Human Sciences Research Council, Occasional Papers Series Number 8, February 2006 [available at http://www.hsrc.ac.za/research/output/outputDocuments/4077_Hemson_Stillpayingtheprice.pdf].

46 On the application of cost-recovery policies, see Section III (A) below.

47 See note 12 above and related text.

48 Paragraph 2, 2003 Strategic Framework, note 16 above. See also Schedule 4, Part B, 1996 Constitution, note 4 above.

49 See Paragraph 4.4.1, 2003 Strategic Framework, note 16 above. The Strategic Framework notes that the equitable share should have been temporarily increased for the 2003-2004 period specifically to assist local governments implement free basic services. This has not been the case so far.

50 *Id.* [emphasis in text]

51 World Water Council, *The Right to Water: From Concept to Implementation* (2006), at 17. See also the speech by the Minister of Water Affairs and Forestry, Policy Review Debate of the National Council of Provinces (NCOP), 31 May 2005 (on file with the author).

The first concerns the lack of funding for local governments. Cross-subsidisation has not appeared to be a viable source of funding especially in rural communities where there are not enough high volume water users to cross-subsidise the provision of free water. Neither do private water companies consider providing a minimum amount of water for free as economically viable. Local governments are facing serious problems in providing for water and sanitation services in general, which have led them to take drastic cost-recovery measures such as disconnections that deprive their residents of any access to water.⁵² This in turns means that people are deprived of their free basic amount of water altogether. Consequently, national funding remains the central pillar in the implementation of the Free Basic Water policy.⁵³

Second, there are very important infrastructural problems in many areas of South Africa which means that water delivery of any kind is simply not possible. The implementation of the policy to provide free basic water therefore requires a rapid improvement in water infrastructure, especially for the rural poor.

The third problem concerns the quantity of free water that has been determined by the government as the minimum quantity necessary for survival. In a household of eight people, the six kilolitre per household per month amount translates as 25 litres per person per day. To illustrate concretely what this means, it allows the household 40 baths per month (i.e. five baths per person) or 16 toilet flushes a day (i.e. two visits to the toilet per person per day).⁵⁴ The amount of 25 litres of water per person per day is considered insufficient to meet basic human needs, particularly for the urban poor, and thus has been considered not to fulfil the requirements found in Section 27, Paragraph 1(b), of the Constitution.⁵⁵ For instance, while the World Health Organization (WHO) has stated that 20 litres per person per day is the minimum amount of water necessary for basic human survival, it stresses that 100 litres of water are needed for optimal access to water.⁵⁶ The 2003 Strategic Framework accordingly encourages water service authorities to increase the basic quantity of water provided free of charge to at least fifty litres per person per day to poor households, although this has not happened to date.⁵⁷ It further provides that the national government will give consideration to increasing the national subsidy over time to make this feasible in all water services authority areas.⁵⁸ The limitation applicable to the amount of free water constitutes a heavy impediment to particularly vulnerable households, including those headed by women or children, and those affected by HIV/AIDS.⁵⁹ The constitutionality of the level of free basic water has been contested in an application submitted in July 2006 by five residents of Phiri, Soweto, against

52 On disconnections, see further Section III C(1) below.

53 Funding is generally a problem since both the NWA and the WSA introduced the decentralization of water resource management and water services without providing for specific and mandatory sources of funding for local governments and bodies.

54 Public Citizen, Orange Farm, South Africa: The Forced Implementation of Prepaid Water Meters (June 2004), at 7 [hereafter Orange Farm Case Study].

55 See, e.g., M. Kidd, 'Not a Drop to Drink: Disconnection of Water Services for Non-Payment and the Right of Access to Water', 20 South African J. Human Rts 119 (2004).

56 World Health Organization, The Right to Water (2003).

57 See Paragraph 4.4.1, 2003 Strategic Framework, note 16 above.

58 See Paragraph 3.3, FBW Implementation Strategy, note 42 above ('Again it needs to be recognised that local authorities should still have some discretion over this amount. In some areas they may choose to provide a greater amount, while in other areas only a smaller amount may [be] possible [...] In some areas where poor households have waterborne sanitation the total amount of water seen as a "basic supply" may need to be adjusted upwards (if financially feasible) to take into account water used for flushing.').

59 See Paragraph 4.4.1, 2003 Strategic Framework, note 16 above.

the City of Johannesburg, Johannesburg Water (PTY) Ltd and the DWAF.⁶⁰ In particular, the applicants' motion includes an affidavit by Peter Gleick maintaining that a flat level of six kiloliters of water per household per month is insufficient to meet minimum basic requirements in the urban context of Phiri for all households.⁶¹ The Court is consequently being asked to order Johannesburg Water to provide a free basic water supply of 50 litres per person per day, which is viewed as the minimum starting point to provide people in the applicants' position with access to sufficient water as guaranteed under Section 27, Paragraph 1(b), of the Constitution.

Fourth, the allocation of free basic water is made on a household basis and not an individual one. Since the average poor household is typically comprised of more than eight individuals, large, poor households are penalised.

Finally, as developed in the following sections, the Free Basic Water policy is meant to be implemented in a framework that has encouraged economic approaches to water management. In particular, coupled with a policy of cost-recovery, this means that once a household goes over the amount of free water allocated and cannot pay, it will face having its water supply disconnected. Indeed, once consumption exceeds the free amount, charges are levied for the *full* amount. Disconnection of course means that the household will have no water at all including the free basic amount. This constitutes a severe impediment to the realisation of access to water for all. Moreover, households with outstanding water debt are not eligible for their allocation of free water until their debt is paid off, and families whose service has been disconnected for non-payment forfeit their right to free basic water.⁶²

3. Challenges to the Realisation of the Right to Water

While on the one hand the South African water framework includes a human rights approach to water, including the provision of a basic amount of free water, it has also been seen as embracing the economic approaches to water management actively promoted by international donors including the World Bank and International Monetary Fund (IMF).⁶³ These approaches can be viewed as creating challenges to the realisation of the right to water. In particular, the relevant documents applicable to water have put in place a policy of cost-recovery which has been accused of impeding the access of the poorer segments of the population to a basic quantity of clean water. At the same time, the legal framework has, although not explicitly, allowed some privatisation of the water services sector.⁶⁴ The application of economic approaches to water has led to increasing use of disconnections of service in the face of non-payment and to the installation of pre-paid water meters.

3.1 Cost-Recovery

Access to water has been increasingly determined by a policy of cost-recovery, which implies that the full cost of the operation and maintenance of water utilities should be financed

⁶⁰ High Court of South Africa (Witwatersrand Local Division), *In the matter between: Lindiwe Mazibuko, Grace Munyai, Jennifer Makoatsane, Sophia Malekutu, Vusimuzi Paki (Applicants) and The City of Johannesburg, Johannesburg Water (Pty) Ltd, the Minister of Water Affairs And Forestry (Respondents)* (July 2006).

⁶¹ Peter Gleick, Supporting Affidavit, Paragraph 8 (on file with the author).

⁶² See Francis, note 1 above at p. 182.

⁶³ See, e.g., A. Baietti et al., *Characteristics of Wellperforming Public Water Utilities*, World Bank, Water Supply & Sanitation Working Notes (May 2006).

⁶⁴ See Section 19, WSA, note 14 above.

through fees paid by water consumers.⁶⁵ The idea is that water usage should be priced in order to reflect the true societal cost of consuming the resource and to finance the cost of managing and delivering it to end-users. The other side of the coin is that accessibility of water services is contingent upon ability to pay.

The WSA subsumes a policy of cost-recovery by putting in place a pricing scheme for water intended for domestic use.⁶⁶ Full cost-recovery is tempered by the right of access to water, which implies that the cost of accessing water must be set at a level that ensures that people can have access to water without having to forgo access to other basic needs. While the WSA does make provisions for affordability, it does not explicitly set tariffs according to ability to pay.

Accordingly, norms and standards for water tariffs may differentiate on an equitable basis between different users of water services, the types of water services and geographic areas, taking into account amongst other factors the socio-economic and physical attributes of each area. In setting these standards, the government is required to consider among other imperatives social equity, the financial sustainability of the water services and the recovery of reasonable costs.⁶⁷ Water tariffs are based on block tariffs, which are aimed at allowing for redistribution of water resources from richer to poorer areas through cross-subsidisation. The WSA moreover prescribes that the government can establish compulsory provisions and requirements for any contracts with a water service provider so as to ensure that water services are provided on a fair, efficient, equitable, cost-effective and sustainable basis and comply with the Act.⁶⁸ However, while it gives competence to the Minister to raise funds, including from Parliament, to provide subsidies to a water service institution,⁶⁹ the WSA does not provide specific guarantees of funding to local governments without an adequate tax base to support affordable water supply services. The 2001 Regulations on Water Tariffs provide that a water service institution must consider the right of access to basic water supply and the right of access to basic sanitation when determining which water services tariffs are to be subsidised.⁷⁰ When setting tariffs, the institution must differentiate between both the category and the level of services provided. Tariffs on water services designed to provide an uncontrolled volume of water must include a volume based charge which supports the viability and sustainability of water supply services to the poor, discourages inefficient water use and takes into account the incremental cost of increasing the capacity of the water supply infrastructure.

The 2003 Strategic Framework confirms that over and above basic water services and sanitation, consumers will have to pay for water services.⁷¹ Tariffs must take into account the affordability of water services for the poor and the ‘subsidies necessary to ensure the

⁶⁵ See, e.g., Paragraph 6.5.3, 1997 White Paper, note 2 above (‘To achieve the objectives of water management [...] all significant water resource use will be charged for, regardless of where it occurs, and including the use of water for effluent disposal or the interception of water to the detriment of other users [...] The only exception will be in respect of the Reserve for basic human needs.’).

⁶⁶ Water pricing also occurs under the NWA with regard to the cost of developing and managing water resources so that they are protected and conserved for beneficial use. These costs are recovered from water users by means of water use charges. See Chapter 5, Part 1, NWA, note 14 above.

⁶⁷ Section 10 (3), WSA, note 14 above.

⁶⁸ *Id.* at Section 19 (5).

⁶⁹ *Id.* at Section 64.

⁷⁰ Section 3 (2), South Africa, Norms and Standards in Respect of Tariffs for Water Services in terms of Action 10(1) of the Water Services Act (Act No. 108 of 1997) (2001) [hereafter 2001 Regulations on Water Tariffs].

⁷¹ See Paragraph 4.5.3, 2003 Strategic Framework, note 16 above.

affordability of water services to poor households.’ The Framework also provides that the approach of water services authorities must be guided by a number of principles, the first of which is ‘compassion’ and that consequently local governments must develop and implement credit control policies that are ‘compassionate, especially towards poor and vulnerable households’.⁷²

Although the WSA and other documents require of water service authorities to provide consumers in their jurisdiction with affordable access to water and the corresponding duty of consumers to pay reasonable charges for water use, cost-recovery is used as a guiding principle in water services management. In particular, national policy has been to price water at a level reflecting the full cost of providing water and sanitation services to households; there has been only minimal cross-subsidisation from rich to poor households. This evidences the tensions that exist between application of full cost-recovery policies, and of more progressive and equitable social policies. According to the 2003 Strategic Framework, ‘[t]he prices of water and sanitation services reflect the fact that they are both social and economic goods [...]’.⁷³ The application of a policy of cost-recovery has created serious obstacles in the realisation of the right of access to water.⁷⁴ It has firstly led to dramatic increases in the price of water, leading to substantial debt in low-income households.⁷⁵ Since during apartheid white South Africans and the industrial sector benefited from heavily subsidised municipal services, charging communities the full cost of service delivery has led to higher rates in poor, black neighbourhoods which require the installation of basic water supply infrastructure. At the same time, provisions for financial assistance have not been sufficient or not implemented in many regions. A second issue linked to cost-recovery has been that of arrears on water bills. Great emphasis has been placed by local governments on recovering the massive arrears debt that exist in the poorest communities, despite the evident impossibility of consumers to afford current service bills. Many households have very high municipal services arrears, which include electricity, water and waste removal, which can amount to R80,000.⁷⁶ A policy of cost-recovery in the water sector has also led to increases in disconnections of water services as well as the establishment in some communities of a system of prepayment for water. These latter two aspects are further developed below.

3.2 Involvement of the Private Sector

A further factor that has proved an obstacle to the realisation of the right to water is the growing tendency towards the involvement of the private sector in water management, whether through what is referred to as ‘corporatisation’ of institutions or through more direct privatisation mechanisms. In the first case scenario, water services are owned and operated by the local government but are restructured following market principles in order to increase their efficiency. In the second, the management of state-owned water services is delegated to private corporations.⁷⁷ South Africa is increasingly involving the private sector in the

72 *Id.* at Paragraph 4.5.8.

73 *Id.* at Paragraph 2.

74 See, e.g., United Nations, Department of Economic and Social Affairs, Interagency Task Force on Gender and Water, A Gender Perspective on Water Resources and Sanitation, Background Paper No. 2, DESA/DSD/2005/2, submitted at the Twelfth Session of the UN Commission on Sustainable Development, 14-30 April 2004, at 16 (Proposals on the application of a sustainable cost-recovery policy).

75 See Francis, note 1 above at p. 172.

76 P. McInnes, ‘Entrenching Inequalities: The Impact of Corporatization on Water Injustices in Pretoria’, in D.A. McDonald and G. Ruiters (eds.), *The Age of Commodity: Water Privatization in Southern Africa* 99, 99 (London: Earthscan, 2005).

77 In South Africa, there is no full privatisation, or divestiture of public water service infrastructure to private companies. See Paragraphs 3.4.7 and 4.1, Strategic Framework, note 16 above.

delivery and management of services, and for this purpose municipalities have adopted business models for water services.⁷⁸ Indeed, corporatisation of services is commonly the first step towards direct involvement of the private sector. Whether water systems are fully state-run but commercialized, or whether they have been taken over by private corporations, the focus is on the promotion of cost recovery and other market principles often at the detriment of more human rights-oriented considerations. It is thus important to note that the institutional arrangement is not necessarily the most important factor in terms of application of human rights and equity principles in water service delivery.

These developments have occurred in line with the more general perception that traditional, state-owned and run water services are inefficient, and have contributed to existing water crises. Privatisation is promoted by private companies themselves, as well as by international donors including bilateral development agencies and the multilateral development banks. South Africa is also a signatory to number of international agreements endorsing privatisation, including the General Agreement on Trade in Services (GATS). A general shift towards private sector participation and privatisation of network utilities can also be observed in other African states.⁷⁹ In particular, the WSA and the NWA entrenched the opportunities for private sector involvement in post-apartheid South Africa⁸⁰ and private investment represents one of the key principles buttressing the 2003 Strategic Framework.⁸¹

Since 1999, several local governments have entered into long-term contracts with international water corporations. These include Nelspruit,⁸² Dolphin Coast and Johannesburg. The involvement of large multinational corporations in the delivery of water services in Johannesburg has been particularly controversial. Johannesburg Water is a corporatised municipal water utility which signed in 2001 a five-year management contract with Johannesburg Water Management Company; the Johannesburg Water Management Company is a joint venture between Ondeo (a water subsidiary of Suez), Northumbrian Water (acquired by Suez in 1996) and Water and Sanitation Services South Africa (the South African local services subsidiary of Ondeo). The City of Johannesburg, as the sole shareholder of Johannesburg Water, has delegated to it the authority to act as water services provider, as contemplated under the WSA. Suez, one of the largest water multinational corporation, in effect maintains control over the whole contract through its subsidiaries. The venture has been denounced as leading to significant rate increases particularly for smaller users, substantial debt and draconian services cutoffs.

Opposition to privatisation in the water sector has been active in South Africa, particularly from NGOs and unions which point to the detrimental effects on health and safety resulting from a focus on economic profit and the incentive by private service providers to provide water to wealthier areas. The question has also arisen of whether the policy of privatisation of

78 See S. Flynn and D. Mzikenge Chirwa, 'The Constitutional Implications of Commercializing Water in South Africa', in McDonald and Ruiters, note 76 above at p. 59.

79 See, e.g., A. Jerome, *Infrastructure Privatization and Liberalization in Africa: The Quest for the Holy Grail or Coup de Grace?* (Palma de Mallorca, Spain: 4th Mediterranean Seminar on International Development, University of Balearic Islands, September 2004).

80 See, e.g., Section 19, WSA, note 14 above.

81 See Paragraph 3.1, 2003 Strategic Framework, note 16 above. Examining the financial role of Great Britain in this push towards privatisation, see G. Monbiot, 'Exploitation on tap: Why is Britain using aid money to persuade South Africa to privatise its public services?' in *The Guardian Unlimited* (19 October 2004) [available at http://www.guardian.co.uk/comment/story/0,,1330405,00.html#article_continue].

82 See L. Smith et al., *Testing the limits of market-based solutions to the delivery of essential services: the Nelspruit Water Concession* (Johannesburg: Centre for Policy Studies, September 2003).

essential services, and in particular water, is consistent with constitutional obligations relating to social and economic rights.⁸³ The bill of rights found in the 1996 Constitution is indeed not limited to state action, since its Section 8, Paragraph 2, binds natural and juristic persons also. This would imply that some constitutional duties apply directly to private entities, although in the absence of related judicial cases it is unclear how a court would treat the applicability of constitutional obligations such as the right to water to private actors.⁸⁴ In any case, the delegation by the state of the provision of basic services to private actors does not mean that the state can delegate its human right obligations; thus, a policy to privatise or corporatise water services to any extent must still comply with the duty to progressively realise socio-economic rights. In particular, the duty to respect and fulfil the right to water requires that the state must ensure that pricing will not make water unaffordable and that efforts are made to realise access to services for all. Decisions to restructure basic service delivery should also be based on participatory processes.

3.3 Consequences of the Application of an Economic Approach to Water: Disconnections and Prepayment

3.3.1 LIMITATIONS AND DISCONNECTIONS OF WATER SERVICES

In the context of a policy of cost-recovery, limitations and disconnections of water services appear as logical options for water providers (whether public or private) in case of non-payment by users. In recent years, there has been a rise in water disconnections as a response to a household or neighbourhood's inability to pay for water services. The question of whether the provision of such an important resource, and indeed one that is protected in the Constitution, can legally be interrupted has therefore become very pertinent.⁸⁵

The WSA sets forth legal procedural and substantive criteria applicable to limitations and disconnections of water services by water providers. Overall, such procedures must be fair and equitable.⁸⁶ They must provide for reasonable notice of intention to apply the measure and for an opportunity to make representations, unless other consumers would be prejudiced, there is an emergency situation or the consumer has interfered with a limited or discontinued service. Section 4, paragraph 3(c) of the Act provides that a person may not be denied access to basic water services for non-payment where that person proves to the satisfaction of the relevant water services authority that he or she is unable to pay for basic services. The WSA does however not provide for the situation in which the individual suffering from the disconnection of the water supply is not the same as the person responsible for paying the bill, for instance children in schools or renters whose rent includes the provision of water. The 2001 Regulations further provide that where services are interrupted for more than 24 hours for reasons other than the user's non-compliance with conditions of service, a water service institution must ensure that the consumer has access to alternative water service comprising at least 10 litre of potable water per person per day.⁸⁷ The 2003 Strategic Framework refers more explicitly to water disconnections for domestic users. It grants

83 There have been few studies in South Africa on the effects of privatisation from a human rights perspective.

84 Note that the Constitutional Court has suggested that the duty to respect socioeconomic rights binds private actions. See Grootboom decision, note 12 above at Paragraph 34.

85 To be noted that water cut-offs are prohibited by law in many countries, including Argentina, Australia, Austria, Belgium, Brazil, Ireland, Luxembourg, Mexico, New Zealand, Norway, Spain, Sweden Switzerland, the United Kingdom and Ukraine.

86 See Section 4 (3), WSA, note 14 above.

87 See Section 4, 2001 Regulations, note 29 above.

service providers the right to disconnect water services to domestic consumers, although service cut-offs should only be used as a last resort.⁸⁸

While the criteria applicable to limitations or disconnections of water services found in these documents are in general similar to those outlined in General Comment 15, they do not go as far as to include the essential condition that ‘[u]nder no circumstances shall an individual be deprived of the minimum essential level of water.’⁸⁹ Indeed, when water services are disconnected, individuals are deprived from even a basic amount of water, thereby seriously comprising the government’s Free Basic Water policy and the realisation of the constitutional right to water. As a result, the DWAF has called upon municipalities to refrain from complete disconnection and that even when consumers do not respect payment orders, water supply should be reduced to a ‘trickle supply’ to provide the free basic amount rather than being disconnected.⁹⁰ This has not appeared to be widely implemented by local governments.

The question of disconnection of water services has been the object of several judicial decisions. In the *Manquele* decision, the Durban High Court made clear that beyond the free water quota water must be paid for, and that once a household is no longer able to pay for the excess it can be cut off completely for non-payment.⁹¹ A different approach was adopted in the *Bon Vista Mansions* decision which found that the disconnection of water supply would constitute a prima facie breach of the state’s constitutional duty to respect the right of access to water, and that procedures employed to effect a disconnection have to be fair and equitable. They should not result in a person being denied access to basic water services for non-payment where the person proves, to the satisfaction of the water services authority, that he or she is unable to pay for the basic services. Therefore, the onus rests on local authority to show that it has legally valid grounds for disconnecting the water supply and has acted in compliance with the Constitution and the WSA.⁹² In the *Highveldridge* decision, the Transvaal Provincial Division granted an association of water users that was not properly incorporated standing to bring an urgent application for reconnection of their water supply.⁹³ The Court noted that a constitutional right was allegedly threatened when their water supply had been cut off. A more recent application considers the validity of disconnections in conjunction with the installation of pre-paid water meters.⁹⁴

3.3.2 PRE-PAYMENT OF WATER SERVICES

As another consequence of the application of a policy of cost-recovery, the installation of pre-paid water meters mainly in the poorest neighbourhoods is becoming a means employed to ensure payment for water use.⁹⁵ Pre-paid meters represent a convenient tool for public or private water providers because since they charge for water up-front, they allow for full cost-

88 See Paragraph 4.5.8, 2003 Strategic Framework, note 16 above.

89 See Paragraph 56, General Comment 15, note 7 above (emphasis added). The other conditions found in this clause refer to the need for genuine consultation with those affected, timely and full disclosure of information on the proposed measures, reasonable notice of proposed actions, legal resource and remedies for those affected and legal assistance for obtaining such remedies. The capacity to pay must also be taken into account.

90 See R. Kasrils, Minister of Water Affairs and Forestry, Pre-paid water meters serves peoples rights, 13 April 2004 (on file with the author).

91 *Manquele v Durban Transitional Metropolitan Council* [2001] JOL 8956 (D).

92 *Residents of Bon Vista Mansions v Southern Metropolitan Local Council* [2002] (6) BCLR 625 (W).

93 See note 11 above.

94 See note 60 above.

95 See, e.g., Statement by R. Kasrils, note 90 above.

recovery with little administrative paperwork.⁹⁶ The system however creates significant hurdles for the poor and contributes to impeding their access to basic water.⁹⁷

First, the system implies that people have to pay for water before they use it. Since in case of non-payment water is immediately disconnected, there is no room for application of the criteria found in the WSA, which require inter alia that reasonable notice of disconnections be provided and ability to pay taken into consideration. Second, the availability of water is made dependent upon the correct functioning of the devices, which in reality have proven to be complex, unreliable and faulty.⁹⁸ Third, the system of pre-paid water meters prevents communication between communities and water providers and thus does not allow for adequate public participation in water management. The experience of the main applicant in a recent case involving the system of pre-paid meters, illustrates well the absence of a human component in the context of access to water:

‘When the free 6 kilolitres of water is finished, the water supply is discontinued without any notice. There is no person to whom I can explain the reason why I cannot pay, or why I need the water to remain connected. The prepayment meter automatically cuts off the water.’⁹⁹

Fourth, pre-paid meters are often installed without the provision of correct information to and consultation with local communities, and even without their consent or knowledge.¹⁰⁰ As a result, the installation of pre-paid water meters has forced people in the most deprived neighbourhoods to look for other, often contaminated, sources of water when they cannot afford to pay for the resource.

Failed experiences with prepayment of water are evidence of these problems. In the KwaZulu Natal Province, for instance, where pre-paid meters were installed in 2000 to existing, free communal taps, the inability of many households to buy the plastic cards and units to access water forced women and children to collect water from streams, leading to a massive cholera outbreak less than six months after the installation of the meters.¹⁰¹ The stream where the Madlebe community fetched water was found to contain cholera bacteria. As a result, the pre-paid meter system in Madlebe was abandoned. In Cilliers, Northern Province, this system was also abandoned after it was found that the meters were unworkable.

Despite these experiences, the installation of water meters has continued unabated and without adequate public consultation. In particular, they have been introduced in Johannesburg’s surrounding townships in parallel with the privatisation of delivery of water services. Experiences include the two poorest districts, Orange Farm and Phiri, with plans for expansion to the rest of the city and country.¹⁰² In Orange Farm, a township of 500,000 people, water meters were installed in 2002 by the local water supplier on the grounds that this system would provide sewer and sanitation systems for every household that paid a fixed

96 The production of pre-paid water meters has also been identified as a lucrative export market in South Africa.

97 *Note* that pre-paid meters have been illegal in the United Kingdom since 1998 due to the adverse effects on health for the poor. They are however still used in other countries, including Brazil, Egypt, Lesotho, Namibia, Sudan, the Philippines and the United States.

98 *See, e.g.*, Orange Farm Case Study, note 54 above at pp. 28-9.

99 L. Mazibuko, Founding Affidavit, Paragraph 102 (on file with the author), in the case referred to at note 60 above.

100 *See, e.g.*, Orange Farm Case Study, note 54 above at pp. 12-15.

101 *Id.* at p. 11.

102 Although in September 2001 the City of Cape Town announced its decision not to implement pre-paid water meters in the city.

fee. These regulations forced local residents who were unable to afford to pay for water to seek and obtain water from unhealthy and unsanitary means such as lakes and rivers. A recent judicial application has asked the Johannesburg High Court to declare the decisions of Johannesburg Water to unilaterally install prepayment meters in Phiri unlawful and unconstitutional.¹⁰³

The effects of the application of a policy of cost-recovery, particularly the practice of water prepayment and of disconnections, have in effect prevented the realisation of the right of access to water found in the Constitution in impoverished communities. They have had disastrous health consequences and the massive cholera outbreak of 2000-2001 has been directly linked to lack of access to clean water. Service cut-offs have also caused social unrest and violence in many communities, including the Johannesburg townships of Soweto and Orange Farm.¹⁰⁴ Moreover, the high administrative costs of performing service cut-offs and meter installations, or hiring collections agencies and lawyers, has meant that the provision of water has operated at a net economic loss.¹⁰⁵

Concluding Remarks

The law and policy framework for water established after the apartheid era in South Africa is noteworthy particularly because the main thrust of the reforms undertaken was to entrench the right to water at the constitutional level. This reflects the international recognition of the right which was subsequently well-established by the Committee on Economic, Social and Cultural Rights in its General Comment 15. This constitutional right of access to water for all has constituted the grounding for the legislation on water adopted in the late 1990s, in terms both of the management of water resources at the national level and the management of water and sanitation services at the local one. The water framework based on the fundamental right to water has more recently translated through the government's Free Basic Water policy into an entitlement for every individual to a basic amount of water that is to be provided free of charge.

The recognition of water as a necessary and basic resource, and indeed a right for each person, has to date however not ensured access of every individual to basic water needs. Particularly under pressure from international donors including the international financial institutions, the government has applied conservative fiscal policies which require that public services such as water pay for themselves. Full cost-recovery policies, as well as corporatisation and privatisation measures, have resulted in increased commodification of the resource and have contributed in effect to posing significant challenges to the realisation of the constitutional right of access to water especially for the poorer segments of the population. Despite the recognition that '[t]he cost associated with providing free basic water to poor households is not large for a country of our economic and size',¹⁰⁶ there remain persistent inequalities in the face of access to water services and infrastructure, and the implementation of the government's Free Basic Water policy has met with serious obstacles in addressing problems of accessibility and affordability of water. Local governments are increasingly resorting to disconnection of water services for non-payment and to the installation of pre-paid water meters which allow people to access water only if they pay for

103 See note 60 above.

104 P. Bond, *The Battle over Water in South Africa* (AfricaFiles) [available at <http://www.africafiles.org/article.asp?ID=4564>].

105 See Francis, note 1 above at p. 170.

106 See Paragraph 4.4.1, 2003 Strategic Framework, note 16 above.

it. These measures have dramatic health consequences as people are forced to resort to polluted rivers, streams and even open pits to draw water for daily survival.

Section 27, Paragraph 1(b), of the 1996 Constitution mandates that the right of access to sufficient water should continually be progressively realised. Additionally, it implies that the right to water should not be constrained by water resource limitations or allocation of water for economic development. The state's obligations to ensure access to water to the most economically disadvantaged groups must comply with a sufficient amount of water to meet basic needs. For the Free Basic Water policy to be effectively implemented, it has been suggested that the present allocation of 25 litres of free water per person per day be increased and that a more important financial commitment be undertaken by the national government in ensuring implementation of the policy. In addition, the constitutionality of such measures as disconnections of water services and pre-payment of water should be reviewed. Overall, the increasing commercialisation of the water sector should be curtailed in order to achieve the fulfilment of the human right to water.

ANDRÉS OLLETA, THE WORLD BANK'S INFLUENCE ON WATER PRIVATISATION IN ARGENTINA – THE EXPERIENCE OF THE CITY OF BUENOS AIRES

Introduction

The work of the International Financial Institutions (IFIs) in developing countries has been subject to intense criticism in recent years. Detractors of the International Monetary Fund (IMF) and the development agencies forming the World Bank (WB) Group do not only deplore the contents of the measures supported by IFIs, deeming that they are inappropriate to address the individual situation of different countries, but also criticise the way in which these policies are presented to indebted member states, which has been perceived as short of an imposition.

In a context of loss of prestige, the role of the IMF and WB Group has attracted particular attention in the contemporary wave of privatisation of public services.¹ Indeed, privatisation of said areas has been one of the central reforms sponsored by IFIs for reducing state deficit and stimulating economic growth in developing countries. Among the public services that have been transferred to private operators in recent decades, the case of water and sanitation in urban areas has merited special study. Given the importance of such services for the well-being of the population, and the magnitude of the business that they represent, the success or failure of privatisation processes has attracted in-depth analysis from both supporters and critics of IFIs' work.

This paper aims at becoming part of said literature and will focus primarily on the role of the WB Group even if the concomitant role of the IMF is referred to.² Secondly, it will specifically tackle the provision of drinking water and sewerage services in urban areas. Lastly, it will be centered on the privatisation in the city of Buenos Aires, though it may also incidentally refer to experiences in other regions of Argentina when appropriate.

It is by now undisputed that the privatisation processes of the water sector that the WB encouraged in this country have been less than successful. Popular distress provoked by deficient services and high tariffs, mutual accusations of violations of the terms of the contracts and suits filed before international dispute settlement organs such as the International Centre for Settlement of Investment Disputes (ICSID) have been some of the unfortunate consequences of the Argentinean experience with privatisation that led to the revocation of contracts and return of water services to the state. The main purpose of this paper is thus to provide the reader with a chronological survey of the events that determined the failure of privatisation in the city of Buenos Aires and to examine the part the WB Group

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- 1 Privatisation in this paper is a term that includes selling assets to a private company, tendering a water concession to a private company, or awarding management contracts to a private company. For reasons that we will see later, in the case of water services, private companies currently prefer the latter type of contract.
 - 2 Both IFIs are regarded as working in unison for similar ideals and policies, from their respective spheres of action. Resorting to IMF references for asserting the policy behind WB action is sometimes unavoidable, given that the IMF has traditionally been more open to the disclosure of loan negotiation documents, while the WB has only recently reviewed its transparency policy and given access to the public to policy and project lending documents. See IBRD/WB, *The World Bank Policy on Disclosure of Information*, (Washington DC: WB, 2002).

played throughout the whole process. This work also aims to contribute to the determination of whether the WB Group has appraised its own performance, learned from its mistakes and changed in any way its approach to water privatisation in other parts of the world.

The paper will be divided in three main sections. Section I will briefly describe the WB's role on the international scene, its mission and lending mechanisms, and will also address its support of water privatisation. Section II will review the case of the city of Buenos Aires; chronologically, one of the first Latin American exercises in privatisation of water services that was lauded as a model for many similar processes in the region. Section III will attempt to draw lessons from the previous sections before concluding with some personal views on water privatisation in general and on the work of the WB Group in Argentina in particular.

1. The World Bank and the Privatisation of Water Services

1.1 Privatisation as a Condition of Access to World Bank Lending

The WB is formed of two development institutions: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). Together with their affiliate agencies³ they form the WB Group, whose main mission is to reduce poverty and improve living standards through financial and technical assistance to developing countries. The WB provides these countries with low-interest loans, interest-free credits and grants in an effort to help them meet the Millennium Development Goals.⁴

IBRD and IDA credits can be classified in two different groups according to their purpose. The first category ('project or investment lending') covers loans destined to finance infrastructure projects that contribute to reach higher standards of development, such as the construction of roads, dams for power generation, or schools. The second category ('policy lending') is formed of those loans that are destined to 'help a borrower achieve sustainable reductions in poverty through a program of policy and institutional actions that promote growth and enhance the well-being and increase the incomes of poor people'.⁵ In order to optimise the results of policy lending, the WB coordinates this kind of loan with IMF offices, should the country be also benefiting from IMF's lending programs.

In policy lending programmes the procedure for borrowing resources from the Bank, much like its counterpart in the IMF, is initiated with the state submitting a project proposal for assessment of its economic, financial, social and environmental viability. The state declares in a document called 'Letter of Development Policy' (LDP) how the funds will be spent, and when and how the sum will be reimbursed to the Bank. The borrower also accepts monitoring of the execution of the project by WB staff. However, policy loans are available to member

3 The affiliate agencies of the WB are the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA) and the International Center for the Settlement of Investment Disputes (ICSID).

4 The Millennium Development Goals (MDG) are eight goals that all 191 UN member states have agreed to try to achieve by the year 2015. Particularly relevant for the present work, they aim to eradicate extreme poverty and hunger, improve health conditions -reducing child mortality in particular-, and ensure environmental sustainability. One of the goals is specifically 'to halve the proportion of people who are unable to reach or to afford safe drinking water' (UN General Assembly Resolution 55/2, United Nations Millennium Declaration, UN Doc A/res/55/2, 2000, para. 19). In the 2002 Declaration on Sustainable Development it was additionally agreed to reduce by half the proportion of people without access to basic sanitation (See Report of the World Summit on Sustainable Development, UN Doc. A/Conf.199/20, 2002, para. 8, p. 11 and para. 25, p. 27).

5 WB, Development Policy Lending, OP 8.60, August 2004, para. 2.

states only after the borrower has agreed on satisfying a set of legal conditions shaped in concert with the Bank; usually, the implementation of a number of reforms that are considered critical for the country's social and economic development.⁶ This is known as conditionality in both IMF and WB circles and its main function, according to the Bank itself, is to ensure that the commitments taken by the country in its LDP are respected.⁷

There is no formal definition of 'conditionality' in the Bank's legal framework or operational policies, as it had not been expressly foreseen in the IBRD or IDA's Articles of Agreement. Conditionality is, in fact, the product of WB practice associated with its lending under 'special circumstances',⁸ though a few provisions in the Articles of Agreement seem to have been at the origin of the practice of attaching conditions to disbursements.⁹ Currently, there is an express mention to conditionality in the form of paragraph 13 of Operational Policy (OP) 8.60, which identifies three essential requirements for the Bank to make disbursements in a policy-based loan: (a) maintenance of an adequate macroeconomic policy framework; (b) implementation of an overall program in a manner satisfactory to the Bank; and (c) compliance with critical policy and institutional actions.¹⁰ A focal point for discussion has been the actual degree of participation of the borrower in the design and adoption of those 'critical policies and institutional actions' that condition for the granting of a loan by the Bank. Additionally, critics of conditionality and IFI action in developing countries claim that conditionality policies are excessively intrusive in the domestic affairs of states and, most worrisomely, that they benefit transnational corporations and reflect 'the neo-liberal agendas and the geo-political imperatives' of G-7 governments that are in actual control of IFIs.¹¹

6 Conditions are not usually attached to project lending programs. On the contrary, the use of conditionality in them is actually discouraged by the WB (See WB/OPCS, *Disciplined Use of Conditionality in Lending Operations*, 2004, and WB/OPCS, *Policy Conditions in World Bank Investment Lending: A Stocktaking*, 2006).

7 The rationale for conditionality 'is the Bank's due diligence obligation to ensure that its resources are used effectively and responsibly by the borrowing country' (WB/OPCS, *Review of World Bank Conditionality: Modalities of Conditionality*, SecM2005- 0390/1, 2005, Executive Summary, para. 2).

8 IBRD Articles, Article III, Section (4) (vii) and IDA Articles, Article V, Section (1) (b) provide that 'loans made or guaranteed by the Bank shall, except in special circumstances, be for the purpose of specific projects of reconstruction or development'. Originally, therefore, only project lending was explicitly regulated in the Articles of Agreement.

9 As the World Bank's Legal Vice Presidency explains, 'the Bank's policy-based loans must be in accordance with the "purposes" identified in the Articles. Thus, where certain policy and institutional actions and measures are considered necessary for an operation to achieve the Bank's development purposes, these "conditions" may be validly justified under the Articles (IBRD and IDA Articles, Article I)'. In addition, 'the IBRD Articles recognise that the institution may provide financing for productive purposes on "suitable conditions", while under its Articles, IDA may provide financing on appropriate terms. (IBRD Articles, Article I (ii) and IDA Articles, Article V, Section 2 (b).)' (WB/Legal Department, *Review of World Bank Conditionality: Legal Aspects of Conditionality in Policy-Based Lending*, SecM2005-0390/2, 2005, Executive Summary, para. 4).

10 *Id.*, para. 9. In the WB context, therefore, conditionality can be defined as 'the set of conditions that must be satisfied for the Bank to make disbursements in a development policy operation'.

11 S. Grusky, *The IMF, the World Bank and the Global Water Companies: A Shared Agenda*, International Water Working Group, 2001, available at: www.citizen.org/documents/sharedagenda.pdf. The leverage bestowed on conditionality is magnified because the non-implementation of public sector reform policies would not only entail difficulties with the creditor, but also negative word can virtually shut the country out of any other available source of financing and investment. Fund officials have been among the first to notice this phenomenon. Joseph Gold affirmed in 1979 that 'the Fund's endorsement, and the member's observance, of a program have become, increasingly, conditions for the entry into loan contracts by other lenders or for making resources available under contracts' (Joseph Gold, *Conditionality*, IMF Pamphlet Series N° 31 14, Washington D.C.: IMF, 1979).

The WB started to use conditionality in its policy lending programs in the early 1980's, mirroring the IMF's use of it in its own 'structural adjustment programmes'. WB conditions at that time addressed only short-term macroeconomic imbalances and economic distortions. By the early 1990's conditionality spanned reforms that emphasised improvements in public sector governance; more specifically, support for government efforts to strengthen public financial management, fiduciary arrangements and public expenditures. To achieve these ends, the Bank has put forth a range of distinct policies that included trade liberalisation, deregulation, fiscal austerity and privatisation; this set of measures is comprised under the general term of 'public sector reform'.

Privatisation, in this sense, has been one of the main reforms that the WB has succeeded in introducing in many countries through its lending programs.¹² Together with the IMF, the WB encourages privatisation as a polyvalent measure that simultaneously aims at regularizing fiscal accounts and reducing the role of the state in sectors where IFIs have deemed its participation ineffective. They exhort governments to retreat from managing public services and to discard protectionist and regulatory instruments and practices that deter foreign investment. In this way, they set an ideal environment for the privatisation of said services. However, the participation of the WB Group in the privatisation of water services is not limited to policy lending to states, but also encompasses the work undertaken by its private sector arm, the IFC, which has been investing along the years in privatisation projects by lending to the companies that have become concessionaries of the service.

In the following subsection we will specifically tackle the reversal in WB policy that has led it to support privatisation of public services and of water and sanitation in particular.

1.2 World Bank Policies on Water

The WB has quickly become 'one of the most, if not the most important actor in the global water sector, be it in terms of financial aid or in terms of general policy-making in the developing countries'.¹³ The furtherance of privatisation of water services, in the framework of WB policies is in effect relatively recent. In fact, for decades the WB stood behind the public management of water resources.¹⁴ This stance was not due to the belief that there were not any possible alternatives to public management of water resources, but mainly to the fact that the Bank was involved in project rather than policy lending, granting loans for the construction and development of infrastructure that would be operated and managed by the state, and that private companies themselves did not regard the provision of water services as

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- 12 The identification of privatisation of services -together with other distinctive liberal policies- with IFIs' action has led analysts to create the expression 'Washington Consensus' for grouping the set of free market-oriented economic reforms that IFIs have been sponsoring and spreading since the late 1980's. These policies have been summarised by the WB in its 2000 Global Poverty Report, available online at: http://www.worldbank.org/html/extdr/extme/G8_poverty2000.pdf
 - 13 M. Finger and J. Allouche, *Water Privatisation: Trans-National Corporations and the Re-Regulation of the Water Industry* 62 (London and New York: Spon Press, 2002).
 - 14 From 1960 to 1990 WB loans to developing countries were mainly destined to building, expanding or maintaining public water utilities, especially to large projects such as dam construction. The Bank was convinced 'that investment in public utilities and other infrastructure projects would trigger the development "take off" and that water utilities were natural monopolies 'that precluded market competition and therefore required public ownership or government regulation' (Public Citizen/Critical Mass Energy Program, *Profit Streams: The World Bank & Greedy Global Water Companies* 2, report available at <http://www.citizen.org/documents/ProfitStreams-World%20Bank.pdf>). For a comprehensive review of WB thinking along the years, see E. Mason and R. Asher, *The World Bank since Bretton Woods*, (Washington DC: The Brookings Institute, 1973).

profitable ventures. Notwithstanding, once the scarcity of water resources came to the forefront of public attention, corporations realised how lucrative the water sector could become. Coincidentally, in the early 1990's, this change of attitude of private companies happened in parallel with the change of paradigm in WB thinking regarding the role of the state in public services provision. It started to endorse the retreat of the state from any area where its presence was deemed inefficient by the Bank - among them the management of public services - and to favour private sector participation as a viable option for improving performance indicators in said areas.¹⁵

The WB's preference for privately operated water services in particular was also boosted by a simultaneous global movement for the recognition of the economic value of water. This shift at the international level was reflected in many declarations and reports of the time. The 1992 Dublin Statement on Water and Sustainable Development, for instance, called 'for fundamental new approaches to the assessment, development, and management of freshwater resources', among them the recognition of water as an economic good.¹⁶ This new approach is referred to as 'integrated water resource management' and aims at achieving optimal management of the scarce resource by addressing all activities related to it and thus at solving the problems caused by competing uses of water stocks. Agenda 21, the program for action issued after the 1992 Earth Summit, specifies that integrated management is 'based on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quantity and quality determine the nature of its utilisation'.¹⁷ The United Nations Development Program (UNDP) quickly followed and embraced this holistic new approach to water management, making it a pivotal part of its Safe Water 2000 decade.¹⁸

The WB's answer to these trends was the delineation of new policies that considered water as an economic good. The Bank argues that competitive market pricing and allocation will improve efficiency in water management, reducing wastage, preventing environmentally harmful uses of water and thus maximizing the benefits that can be derived from this scarce resource. In the Bank's view, the incorporation of the economic side of water into integrated water resources management serves multiple purposes. It works for a more environmentally friendly management of water, but also for raising the necessary budget for maintaining and expanding water services networks.

Given that the WB was at the same time exhorting the withdrawal of the state from public services, the private sector soon became identified with integrated water resources management as the new main actor in the revamped scheme of management. The WB's own promotion of privately operated water services is said to have formally started with the publication of a 1993 Policy Paper.¹⁹ The Bank expressed its disappointment over the

15 In the foreword to the World Development Report 1994, Lewis T. Preston (then president of the WB) stated that 'most of this report shows how the functions of the state need to be changed in infrastructure services according to the World Bank' (WB, *World Development Report 1994: Investing in Infrastructure*, New York: Oxford University Press, 1994). See also WB, *The State in a Changing World*, 1997 World Development Report (Washington DC: World Bank, 1997).

16 See principle 4 of the Statement on Water and Sustainable Development, issued following the International Conference on Water and the Environment, Dublin, Ireland, January 31st 1992, available online at: <http://www.inpim.org/files/Documents/DublinStatmt.pdf>

17 Agenda 21, chapter 18, paragraph 18.8, in Report of the United Nations Conference on Environment and Development, Rio de Janeiro, UN Doc. A/CONF.151/26/Rev.1 (Vol. 1), Annex II (1992).

18 United Nations Development Programme, *Safe Water 2000 3* (New York: UNDP, 1990). See also United Nations, *A Strategy for the Implementation of the Mar del Plata Plan for the 1990s*, (New York: UN Department of Technical Cooperation, 1991).

19 WB/IBRD, *Water Resources Management: A World Bank Policy Paper*, (Washington DC: WB, 1993).

efficiency records of water utilities handled by state companies while admitting to have learnt lessons from the review that its own Operations Evaluation Department (OED) had conducted of WB-funded water endeavours; this review concluded that the management of its past projects in public hands had been less than stellar.²⁰ The WB claimed that in developing countries water services under public management were on the verge of collapse; specifically, that those states that lacked resources were incapable of extending the service network so as to reach the poorest sectors of the population or of modernising it to meet current salubrity and environmental standards.²¹ Basically, the WB argued that the private sector could provide a remedy to many characteristic problems of publicly-managed water services, such as corruption, inefficiency, obsolete technology, pollution and waste of resources. The Bank equally underlined the importance of pricing water services as any other private good, charging the user according to their actual consumption.²² This latter statement actually ‘constitutes the main change in the policy adopted by the main World Bank’s water specialists’,²³ since it is central to the integrated management of water resources by private operators that the IFI favors.

Another major policy at the core of the Bank’s suggested reforms for the water sector is that of decentralisation, a measure which relates closely with privatisation processes. Decentralisation is defined by the WB as ‘the transfer of political, fiscal and administrative powers to subnational governments’.²⁴ This definition is actually incomplete. Decentralisation indeed was originally a measure of reorganisation strictly within the public administration for improving its functioning and the quality of the services provided by it; however, said delegation of powers is currently vested on civil society and the private sector as well. The Bank regards decentralization as critical to its mission of poverty alleviation and achievement of the MDG since it is important for accomplishing such goals that states establish a well functioning public sector that delivers quality public services consistent with citizen preferences and that fosters private market-led growth while managing fiscal resources prudently. Consequently, the Bank has started to support the implementation of programmes encompassing not only political decentralisation, but also administrative, fiscal and market decentralisation, transferring authority and responsibilities for public functions from the central government to subordinate government organisations, autonomous entities and the private sector. Decentralisation, as a result, is a process that is not only limited to the reorganisation of governmental structures, ascribing new and more important functions to lower levels of the administration. It is, on the contrary, an all-encompassing phenomenon that divests the state of certain powers, though not –as it is commonly affirmed- redistributing them only among ‘subnational governments’ but also among non-governmental entities and private companies.

Decentralisation has the benefit of incorporating to a greater extent user participation in the overall scheme of management of water, since at least political decentralisation is identified with the involvement of civil society and elected representatives, and with granting them greater power in public decision-making regarding water management (democratisation). However, as certain analysts have pointed out, the basic function of user participation in the WB rationale ‘seems to be to make economic and fiscal decentralisation acceptable, in

20 WB/OED, *Water Supply and Sanitation Projects: The Bank’s Experience: 1967-1989*, para. 36 (Washington DC: WB,1996). See also *Water Resources Management* 67, note 19 above.

21 See *Water Resources Management* 27, note 19 above.

22 See *World Development Report* 1994 23, note 15 above.

23 See Finger and Allouche 76, note 13 above.

24 WB, Decentralisation Home Page: <http://www1.worldbank.org/wbiep/decentralization/>

particular by (1) seeking the users' consensus on the overall project and by (2) getting them to pay the increased fees at the local level'.²⁵ In other words, to pave the way for a privatisation process (economic decentralisation) that rests on an initial seal of approval from users that is later turned into forced compliance.

As part of its promotion of decentralisation of public services and privatisation in particular, the WB has participated in setting the proper conditions for their domestic implementation. Through structural adjustment/policy lending programs, and under IFI supervision, indebted countries have engaged in substantial changes to the legal and regulatory framework of said services in order to turn the water sector into an appealing opportunity for private investment.²⁶ The WB, through its technical advisory departments,²⁷ has played a role in this process of modification of local laws, decrees and administrative resolutions and in shaping their new contents in order to ease the transition from publicly-managed to privately-operated services. The leverage of WB policy advice is, in this sense, not to be underestimated: together with loan conditionality, policy advice forms a tandem for the imposition of public sector reform and for making its actual implementation possible.²⁸ One of such policy pieces of advice has been the suggestion to separate profitable from unprofitable areas of exploitation of water services, offering the profitable ones to private bids and keeping the unprofitable under public administration. This decision would naturally attract private investors to the former group (which usually coincides with urban areas) while relieving them from servicing rural and poorer areas, but contradicts the initial argument of privatisation as a tool for the incorporation of the poorest to the water and sewerage networks. Another piece of advice has been to discard full asset sales or concessions and instead privatise in the form of management or service contracts. This entails that the state keeps its ownership and responsibilities over infrastructure –usually fulfilling its obligation to expand it and maintain it through indebtedness with international and regional development banks- while private companies easily make profit from urban users, running the service and taking their income abroad.

These changes in national norms and policies embody at a local level the public sector reforms that the Bank is perceived as sponsoring or imposing. The WB is not alone in its quest for the modification of the legal and regulatory framework of an indebted state in order to attract the presentation of bids by companies keen on becoming private operators of public services. It is undeniable that the IMF, the WTO and transnational corporations share certain WB goals, such as the liberalisation of capital controls and of other legal and regulatory provisions that are locally in force putting obstacles to the entry and exit of goods, services and capital.²⁹

Yet, even though such reforms are indispensable for the transition from public to private management, a sound legal and regulatory framework is one that ensures that all the interests

25 See Finger and Allouche 86, note 13 above.

26 Since 1993 the Bank acknowledges as one of its priorities that « its economic and sector work, lending, technical assistance, and participation in international initiatives [aim] to promote policy and regulatory reforms » for the implementation of privatisation (See Water Resources Management 65, note 19 above).

27 These are the Private Sector Advisory Services (PSAS) and its Foreign Investment Advisory Service (FIAS), which provide governments and enterprises with advice on policy, transaction implementation, privatisation, and investment climate.

28 Policy advice in preparation for the arrival of private operators may arise even prior to the actual loan discussions and might be used by the IFI as a pre-condition for opening the negotiation rounds. See Grusky 3, note 11 above.

29 See World Panel on Financing *Water Infrastructure, Financing Water for All 51*, Report available online at: http://www.financingwaterforall.org/fileadmin/www/Library/Publications_and_reports/CamdessusReport.pdf.

at stake (those of the private sector, of the government and of the population) are adequately addressed and correctly balanced. Such a framework is specially needed in the case of potable water and sanitation. The most essential of public services should not be left in a legal and regulatory vacuum at the mercy of potential excesses of transnational companies seeking easy profits in a context of monopolistic exploitation. The following section assesses whether that was the case in the city of Buenos Aires and whether that can be deemed to be the main reason for the failure of privatisation in that particular instance.

2. The Privatisation of Water Services in Buenos Aires

2.1 The Concession Contract and Early Problems

The modifications to the legal and regulatory framework that allowed for the privatisation of water services in the city of Buenos Aires can be traced to 1989, when one of the very first legal initiatives of the recently-elected president Carlos Menem became Law 23.696, also known as State Reform Law.³⁰ This instrument was the result of the dialogue and negotiations that the country had initiated with IFIs in seeking a solution to the major crisis hitting the country. As a reflection of the policies that the WB was sponsoring at the time, Law 23.986 heralded a comprehensive privatisation process of public enterprises and enterprises in which the state participated, whether or not it provided public services. The first years of President Menem's period in office saw the WB participating intensively in the reform process through non-lending services (particularly informal Economic and Sector Work and policy dialogue). The Bank readied loans that became essential to the initial success of the public sector reform.³¹ In 1991 it granted to Argentina a Public Enterprise Adjustment Loan and a related Technical Assistance Loan which supported the comprehensive privatisation program.³²

At that time, water services were managed by public enterprises at the province level and consequently the national government did not have the authority to implement privatisation initiatives beyond its own jurisdiction. A single national enterprise, Obras Sanitarias de la Nación (OSN), covered the whole Argentine Republic; however, under the pressure of the WB, water services were decentralised and management was ceded to the provinces in 1980.³³ While keeping its name, OSN was limited to the coverage of the services of Buenos

30 Approved on August 17, 1989; promulgated the next day, reglamented by national decree 1105. Published in *Anales de Legislación Argentina* n° XLIX-C, 1989, August 23, 1989, pp. 2444-2457. Menem had taken office in July 8, 1989. Argentines were at that moment suffering 'the trauma of extended recession and hyperinflation', which had created a 'fertile ground for reform' (WB/OED, *Argentina: Country Assistance Review*, Report 15844, Executive Summary 6, para. 5, Washington DC: WB, 1996).

31 *Id.*, para. 8 & 9. As a consequence of the 1989 Argentinean crisis, 'the Bank reduced its lending program in Argentina but continued, or intensified, its policy dialogue, and the respective roles of the Bank and the Fund were clarified through a concordat whereby the Fund agreed to take the lead in short-term macroeconomic programming and monitoring, while the Bank agreed to deal with the institutional underpinnings of macroeconomic policy' (para. 8).

32 *Id.*, 24. OSN had previously endured budget cuts under the pressure of IFIs' structural adjustment programs from the times it used to cover the whole Argentine Territory.

33 As seen above, the decentralisation of water services from national to local government control is one the most typical reforms promoted by the WB. At the time it covered the whole Argentinean territory OSN had endured budget cuts under the pressure of IFIs' structural adjustment programs. The WB aid offered to the country since the late 1980's to extend water service coverage, in particular, already insisted on the privatisation of the company, since the Bank was convinced that the downfall of the economic stabilisation programs designed by Argentine authorities 'was the failing of measures to rein in the public sector deficit, particularly that generated by public enterprises...' (*See Argentina: Country Assistance Review* 6, para. 4, note 30 above)

Aires and some of its neighbouring suburbs located on the province of Buenos Aires' territory.³⁴ Given that the national government kept jurisdiction over the capital city, in accordance with constitutional provisions, it also kept ownership of what remained of OSN. Through Law 23.696, therefore, the national Executive took the initiative to liquidate and privatise of its own enterprises; and, among them, the provision of water services of the city of Buenos Aires. Nevertheless, this move would eventually launch a similar campaign in other jurisdictions of the Republic, which were pressured to normalise their administrations by a central government that was itself under heavy IFI pressure.³⁵

The privatisation of OSN was undoubtedly the biggest operation in the water sector, both in terms of infrastructure and number of users. The water services of the city and of thirteen of its neighbouring suburbs,³⁶ home to some nine million inhabitants, were privatised in 1993 even if OSN had been appointed for privatisation three years earlier.³⁷ The delay was due to the work that needed to be done in the enterprise previously to its transfer to private management and the strong opposition of labor groups. Workers at OSN expected personnel cuts as one of the first measures to be taken to balance the performance of the entity. However, their ultimate adhesion was won over by using the denominated 'programs of shared ownership' introduced under Law 23.696.³⁸ These programs allowed working forces to purchase a portion or the totality of the privatised entities' shares,³⁹ and the profits expected from the operation gradually managed to convince several labour groups and thus weaken opposition. While workers got a ten percent of the shares of the company, in the months following the operation half of the 7.200 jobs at OSN would be cut.⁴⁰

In the end, the Argentinian government ceded management of the services to a consortium called Aguas Argentinas,⁴¹ formed by French, British and Spanish capital, together with local

34 The water services provided to these suburbs form an indivisible unity with the services provided to the city of Buenos Aires.

35 Provinces such as Santa Fe, Tucuman, Cordoba and Buenos Aires also privatised their water services, with negative results. Many of them had to cancel the contract early and the Argentine government was therefore sued by the private operators before the ICSID. In this respect, see the pending ICSID cases No. ARB/97/3, No. ARB/03/17, No. ARB/03/18, No. ARB/03/19, No. ARB/04/4, and No. ARB/03/30. The restatisation of Buenos Aires' water services was at the origin of another suit (No. ARB/01/12) that concluded with Argentina condemned to pay reparation.

36 The district of Quilmes would later become the fourteenth suburb by joining voluntarily this privatisation. Later, the suburbs became 17 due to the subdivision of the Moron district.

37 National Decree 2074/90, October 10, 1990. The announcement calling for the presentation of bids was made a year after through Resolution of the Secretary of Public Works and Services N° 178 (December 13, 1991).

38 Chapter III of Law 23.696 (arts. 21-40).

39 This strategy is criticised by privatisation detractors as representing a sophisticated, institutionalised form of bribery. Its use as a common practice in Argentinian privatisations for 'buying' the consent of workers has been acknowledged in IADB papers (See D. Artana, F. Navajas, and S. Urbiztondo, *Regulation and Contractual Adaptation in Public Utilities: The case of Argentina* 21, Washington DC: IADB, 1998).

40 Public Citizen Report on Argentina, available at:

http://www.citizen.org/cmep/Water/cmep_Water/reports/argentina/

It is estimated that between 1990 and 1994 280.000 Argentinians lost their jobs in the public sector throughout the whole privatisation process, the majority of which through official programs of early retirement (see art. 7.11 of National Decree 787/93). Only 40 percent of that number was absorbed by the new private operators (See 'El Estado tiene deudas por 7000 millones tras las privatizaciones', Argentinean Journal La Nación [referred to as 'La Nación' hereinafter], September 16, 1996).

41 The operation took the form of a contract of concession of the services of drinking water and sewerage, which was approved by National Decree 787/93 on April 22, 1993.

partners.⁴² The contract, which took the form of a concession of the services of drinking water and sewerage, was granted to this conglomerate not on the basis of the biggest investment commitment but upon presentation of the largest tariff rate reduction.⁴³ Prior to the privatisation operation, the government had however raised tariffs by 62 percent and additionally increased them by eighteen percent through the introduction of a new tax. As many failed to realise that this operation, led by the Argentinian government, was a strategy for preparing public opinion for the idea that privatisation was the sole alternative to deficient and expensive services handled by the public sector. In a context where memories of the penuries endured during the hyperinflationist crisis were still fresh, this tactic was successful.⁴⁴ Aguas Argentinas indeed lowered rates as promised, but the disproportionate raise that the Argentinean government had put into effect prior to the arrival of the company had given it margin for doing so and still making considerable profits.

The privatisation of water services was paired with the creation of a regulatory entity in charge of the supervision of the performance of the private operator and its compliance with the terms of the contract, the Ente Tripartito de Obras y Servicios Sanitarios (ETOSS).⁴⁵ The budget of ETOSS was financed through a percentage of Aguas Argentinas' billing, a fact that has shed doubts over its capacity to objectively intervene on tariff-related issues. Moreover, it later became clear that the entity, with its tripartite composition, was victim of constant politicisation. Its composition made it difficult to find agreement among the representatives of the three jurisdictions involved, a fact that prevented it from acting quickly and effectively. The organ seemed to activate only as local, provincial or national elections approached, but what was remarkable was how its work and function would gradually be neglected by highest governmental instances, to the point of being virtually deprived of authority and support as circumstances called for.⁴⁶

In particular with such a failed regulatory entity in charge of the surveillance of the operator's compliance with the terms of the contract, the privatisation of water services in the city of Buenos Aires could not be but one of constant revisions and multiple breaches. Only one year into operation, Aguas Argentinas pressured ETOSS to allow for a rate increase even though the company had agreed not to raise prices for ten years.⁴⁷ ETOSS agreed⁴⁸ and an increase of 13.5 percent for consumption, disconnection and reconnection of the service, and of 42 percent for new connections, was adopted in exchange for accelerating connections to slum

42 The partners were, respectively, Lyonnaise des Eaux (SUEZ Group), Compagnie Générale des Eaux S.A (Veolia Group), Anglian Water PLC, Aguas de Barcelona S.A and the local partners Meller S.A., Sociedad Comercial del Plata S.A., and Banco de Galicia y Buenos Aires S.A. Lyonnaise des Eaux (SUEZ) was named main operator. See Official Bulletin of the Argentine Republic, March 24, 1993.

43 Aguas Argentinas offered to reduce the rate in 26.9 percent, slightly above the bid of the runner-up (26.1 percent). Only three bidders reached the final stage of the bidding process.

44 It was applied in the same way in relation to the privatisation of ENTEL, the national telecommunications company.

45 Created by Agreement among the Central Government, the Government of the Province of Buenos Aires and the Mayor of the City of Buenos Aires on February 10, 1992. The 'Tripartito' refers precisely to its composition of representatives from the three jurisdictions involved in the provision of water services by OSN in Buenos Aires: the city, the province and the central government.

46 See L. Alcazar, M. A. Abdala, and M. M. Shirley, *The Buenos Aires Water Concession*, Washington DC: WB, 2000, who criticise the lack of independence of ETOSS and the inexperience of its members. The WB researchers correctly underlined that the weakness of the regulatory institutions was an obstacle to the success of the concession (p. 9).

47 This compromise emerges after an attentive reading of the original contract. It must also be said that, from what is inferred from art. 12.7 of National Decree 787/93, there was no room for modifications in the expansion plans for at least five years since the beginning of the concession.

48 ETOSS Resolution 81/94.

communities.⁴⁹ The entity disregarded the fact that this first resolution that had informally modified the terms of the privatisation contract could have serious precedent-setting effects.⁵⁰ In reality, it became the first of many modifications, thereby creating a climate of legal and regulatory insecurity for all actors involved, including users of the service.

Aguas Argentinas succeeded in establishing a connection fee that ranged from 600 pesos/dollars for drinking water and from 1,000 pesos/dollars for sewerage. The WB, using its common rhetoric of full cost recovery and placing the expansion of the service as the main priority, publicly defended Aguas Argentinas' posture and not only granted it new loans through the IFC, but even became its partner through the purchase of a share of the company.⁵¹

Despite tariff increases, in 1996 the company still boasted that it had lowered tariffs by seventeen percent with regard to the numbers that users were paying to OSN in 1993 and that the process was still considered successful.⁵² This statement however took into account the tariffs artificially inflated by the government in order to introduce the privatisation of services. In reality, the 26.9 percent reduction offered in the winning bid by Aguas Argentinas had little chance of materializing, since tariffs started to mount as soon as 1994. If we also take into account that the company was not fulfilling its engagements in infrastructure investment, Aguas Argentinas was making amazing profits.⁵³ The single problem for Aguas Argentinas back then was that most new users were unable to pay on time the connection charges introduced in 1994.

2.2 The 1997 Renegotiation of the Contract

In April 1996, Aguas Argentinas approached ETOSS concerning the need to renegotiate the contract on the grounds that if tariffs were not raised as a compensation for the unpaid new connections it would be impossible for them to meet contractual obligations related to network expansion. The sums owed to Aguas Argentinas escalated to 30 million by October of the same year, prompting ETOSS to ask the company to suspend thousands of suits filed by it against users for their delay in payment and to accept to open a dialogue for the modification of the concession contract.⁵⁴ To the Argentinean public opinion, this revision was presented as indispensable on the grounds of 'new exigencies of public order that had not

49 In practice, the company raised tariffs over 16 percent for consumption, disconnection and reconnection. The 42 percent raise for new connections was not noticed by users and did not cause the upheaval it did until the corresponding bills were sent two years later.

50 All price increases that were effectuated in the first five years of the concession 'implied that the contract was negotiable and that the company could push for tariff increases whenever it wished to, particularly if they could show that new demands were extra-contractual and had to be paid for by the consumer.' (A. Loftus., and D. A. McDonald, 'Of liquid dreams: A political ecology of water privatisation in Buenos Aires', 13 *Environment & Urbanization* No. 2 179, 191, October 2001).

51 The share was acquired by the IFC and it was actually a exchange for the debts Aguas Argentinas had with it. As Loftus and McDonald affirm, 'not only does this testify to the instant profitability of the firm (the IFC wanted a share in these profits), it raises questions about the objectivity of World Bank research into the privatisation initiative. It also makes the Bank's aggressive promotion of the Argentinean model abroad problematic' (*Id.*, 185).

52 The World Bank was proud of having contributed 'finance and advice for the most far-reaching public enterprise privatisation program ever carried out by a developing country' (*See Argentina: Country Assistance Review* 9, note 30 above).

53 The publication 'The Economist' considered the Argentinean concession the most profitable in the sector worldwide, with rates of return close to 40 percent (*See Artana* 21, note 39 above).

54 By the time the renegotiations started, the company was arguing that its operative deficit had reached 60 million dollar/pesos.

been foreseen in the original contract and had emerged ever since'.⁵⁵ The representatives for Aguas Argentinas concurred on the dialogue rounds not being about renegotiating the original contract, but rather about 'adapting' it to an unforeseen situation that the company was forced to face.⁵⁶

The state representatives in the renegotiations had an ample margin for bargaining in the renegotiations of 1997.⁵⁷ It was the first time ever in Argentina that a concession contract with a private operator would be modified. For this reason, the development and outcome of the renegotiation rounds would be closely watched by IFIs and private companies operating in Argentina, as representing a precedent for eventual changes to similar contracts in force. The WB even decided to send one of its senior water management authorities as a consultant for Aguas Argentinas. It is to be underlined that the WB Group by then had spent millions of dollars in loans to the company, had already invested more directly in it by the acquisition of a share and had put forth the particular contract as a privatisation success story.

Aguas Argentinas agreed to reduce charges for new connections in exchange for a postponement of the infrastructure investments of the original project and the extension of the privatisation contract, a scenario that had been foreseen by the specialised media.⁵⁸ The reduced connection charge (CIF) was paired with a new surcharge called SUMA to be perceived by Aguas Argentinas from 1998 on.⁵⁹ It was argued, once again, that the surcharge would guarantee the expansion of the network in a context of alleged diminution of the company's profits due to the acute recession that Argentina was enduring.⁶⁰

In addition to this, the renegotiation condoned all previous blatant breaches of the contract.⁶¹ According to reports made by both the ETOSS and a panel of technicians recommended by the WB itself, the company had put on the table for discussion a proposal that omitted and exchanged several investments projects whose realisation it had previously assumed. The most notable of these was the Berazategui Plant for treating sewerage waters. The reports stated that with each year that its construction was delayed, Aguas Argentinas was increasing its current value of future profits in 35 million dollars. The suggestion of replacing primary

55 National Decree 149/97, art. 1.

56 Interview with Guy Canavy, General Manager of Aguas Argentinas, *La Nación*, February 22, 1997. Jerome Monod, head of the Lyonnaise des Eaux Group, visiting Argentina in March 1997 as part of French President Jacques Chirac's retinue in the latter's official visit to the country, equally insisted on the rounds being more of an 'update' of the original contract rather than a renegotiation (*La Nación*, March 26, 1997).

57 ETOSS was bypassed in favour of the Public Works Secretariat and the Natural Resources and Sustainable Development Secretariat on the basis of the renegotiations would address environmental issues as well, such as the recuperation of the Matanza river, one of the most polluted streams in the world. The official negotiators were entitled by the Executive to bargain on basically every aspect of the contract in order to reach an agreement with Aguas Argentinas (See National Decree 149/97, February 14, 1997).

58 'Bajarán un 5 por ciento las tarifas de electricidad', *La Nación*, October 26, 1996.

59 Apparently, the state and the company had agreed to delay the perception of this surcharge until the elections of 26th October 1997. Thus, the official instrument that finally approved all the modifications to the contract was signed shortly after (National Decree 1167/97, November 7, 1997) and SUMA would appear on water bills from March 1998 on.

60 The product of both CIF and SUMA literally meant that Aguas Argentinas' investment in infrastructure would mainly be afforded by the users of the service (which had not been given the opportunity to participate in the renegotiation process) and had to be paid prior to the execution of any works, a measure that eliminates any risks for the company (See Loftus and McDonald 192-3, note 50 above).

61 While user associations were denouncing unreached investment goals worth 400 million dollar, the government in the renegotiation rounds had only addressed works worth 201 million that were included in a new schedule. The 8 million dollars in fines that the ETOSS had sanctioned the company with were not even discussed.

and secondary treatment by pre-treatment is specially puzzling in a renegotiation summoned for addressing environmental concerns, since according to the reports under comment this option would increase the rate of polluting substances spilled in the Rio de la Plata River.

Equally perplexing is the introduction in the new version of the contract of a provision that violated the Convertibility Law: the annual indexation of the tariffs, which were issued in pesos, according to the inflation rate of the United States of America.⁶² This provision further relieved the company from a major financial risk in its operations in the country, granting intangibility to its profits. However, the impact of said norm would be a major source of concern for users, since devaluation could hit their household income while tariffs for an essential service would remain untouched. In 1998 Aguas Argentinas profited for the first time of this disposition and asked for a further 11.7 percent raise in tariffs. This raised protests by users, which had been constantly left out of negotiations, denied information and were asked to pay for the investment projects of Aguas Argentinas.⁶³

In summary, the 1997 renegotiation of the contract appeared to be a condemnable maneuver executed in concert by the government and the private company in detriment of the users' interests and allowing the company to increase tariffs throughout 1998 by 36 percent. The renegotiation clearly proved that the combination of a monopolistic private service provider and of the state neglecting its role of regulator can only work in prejudice of the users. It also revealed that the company was ready to threaten to paralyse connection works as a way of exerting pressure, and that the regulatory agency was extremely politicised, institutionally fragile and weak in relation to the service provider. In effect, on the one hand, internal fights within ETOSS, among the directors appointed by all three intervening jurisdictions, demonstrated that the regulatory function was second to the battle for political power and that the protection of users' rights was only important during electoral times. On the other hand, the Secretary of Natural Resources' inexplicable support of the company was puzzling given the pollution record of Aguas Argentinas. The Secretary prevented the ETOSS from participating in the renegotiation rounds and trivialised its work, proving that blind compliance to the transnational company's demands prevailed in the highest spheres of the local government. In conclusion, the Secretary kept disregarding the institutional mechanisms that had been created for guaranteeing the preservation of users' rights and their ultimate wellbeing. In a situation where there was no political will to contest Aguas Argentinas' pretensions, a regulatory framework could not operate as it should have.

2.3 The Service after the 2001 Economic Collapse

The administration that took office in 1999, after President Menem's second mandate came to a close, was unable to provide a remedy for the worsening state of affairs that affected the privatisation of water services in Buenos Aires. On the one hand, the foreign companies that

62 Such tactic was forbidden by art. 10 of the 1991 Law 23.928 (Law of Convertibility).

63 The whole renegotiation operation was impugned by the National Ombudsman and users' associations in February 1998 (See 'La justicia definirá los aumentos', *La Nación*, February 21, 1998). In March 1998, the Justice endorsed the Ombudsman's impugnation and as a precautionary measure ordered the state and the company to suspend the application of the 'SU' part of 'SUMA' (that is, the surcharge that all users were paying for the extension of the service network to low-income areas in the outskirts of Buenos Aires). This setback prompted Aguas Argentinas to warn that 'it would be impossible to continue with the expansion projects in order to connect the 3 million inhabitants that still did not count with basic services', a measure that they put into motion and that caused the mayors of several districts to ask for the revision of the decision on the grounds that the works for sewerage network extension were completely paralyzed. The Executive joined the appeal and finally the Tribunal revoked the suspension ordered in the first instance.

were operating privatised services in Argentina complained about the lack of legal security when the government called for renegotiations to adapt the contracts to the economic crisis situation. On the other hand, the antagonism against foreign economic actors in the country quickly deepened in the context of the recession, since they were seen as exploiters of users that constantly failed to satisfy their own investment commitments.⁶⁴ In the case of Aguas Argentinas, the strategy of making dependent the expansion of the service network and other investment projects on new tariff raises still proved successful for the company and new raises of 3.9 percent were agreed upon in January 2001. The courts started to accept complaints by users and nullified certain tariff raises that had been approved in violation of due procedure, while the ETOSS applied heavy fines to the company for its delay in the construction of new infrastructure.

The beginning of the end for the privatisation contract of water services in Buenos Aires came with the economic, political, institutional and social collapse of Argentina in December 2001. As a result of the ensuing devaluation, the huge profits made by Aguas Argentinas for almost a decade were threatened as inflation increased its mounting debts. In 2002, Emergency Law 25.561 took the first step towards the redefinition of the contractual relation with the privatised firms, calling for a revision of the contracts in force.⁶⁵ The company publicly warned that a minimal profit would have to be granted to Aguas Argentinas or else it would not hesitate to rescind the contract and sue the country. It started an aggressive campaign in preparation of this event and deployed its usual means of lobbying, which included diplomatic meetings of French government representatives with national authorities.⁶⁶ It also conditioned the fulfillment of its contractual obligations on a series of unrealistic demands in the context of the Argentine economic crisis.⁶⁷ Among them, an exchange rate insurance that would have implied that the state (in fact the society as a whole) should bear more than half the firm's external debt, contracted with national and international banks and with multilateral organisms such as the IDB and the WB.⁶⁸ The Argentine

64 One of the early suits was filed by authorities of the Berazategui District on the grounds that Aguas Argentinas was spilling untreated sewerage waters to the Rio de la Plata River. The company argued that the construction of the plant for the district had been postponed in the 1997 contract renegotiations, and thus the government itself had chosen to reschedule the works and overlook the pollution.

65 See Law 25.561 and National Decree 293/02, which entrusted the Ministry of Economy with the mission to conduct the renegotiations. Art. 8 of said instrument eliminated the privileges Aguas Argentinas was holding, such as the 'dolarisation' of prices and their indexation according to variations in the United States' price figures. Art. 4 confirmed on the other hand what had already been stated in judicial decisions, namely that this practice violated the Convertibility Law. This could open the door to the review of all of the water tariffs increases imposed under the contract. At the same time Law 25.561 froze tariffs for six months.

66 The involvement of French government representatives in the many renegotiations of the contract was blatant. Francis Mer, Minister of Economy of France, warned Argentina that France would defend the interests of Suez and other French companies operating in the country, and complained that Kirchner's presidency lacked a genuine will to adjust public services tariffs. He did not hesitate in reminding Kirchner about the importance of France's support to Argentina in reaching an agreement within the IMF after the default (See *La Nación*, January 24, 2004). The linking of tariff adjustment and support before the IMF and WB was also mentioned by Dominique de Villepin (French Minister of Foreign Affairs) during his visit to Argentina in February 2004.

67 Note 35.050/02. These demands included the unilateral suspension of all investment projects, the extension of the contract to compensate for losses and the suspension of the fines imposed by ETOSS. They were grounded in the argument that the company had taken an important external credit (before the World Bank Group and the IADB) in order to finance investment projects and that it needed the state to sell to it dollars at the usual parity for servicing such debt.

68 D. Aspiazu and K. Forcinito, *Privatisation of the water and sanitation systems in the Buenos Aires Metropolitan Area: regulatory discontinuity, corporate non-performance, extraordinary profits and distributional inequality*, paper presented to the First Project Workshop 'Private Sector Participation in

government refused to offer such exchange rate insurance and Aguas Argentinas defaulted on April 10th 2002, with an avowed debt of 700 million dollars.

The renegotiations proved unsuccessful in solving the company's problems caused by the devaluation of the currency. As the period prohibiting tariff increases expired, Aguas Argentinas prepared an estimation of losses that amounted to 500 million euro and notified the government of its intention of making use of the recourse foreseen in the bilateral treaty for the protection of investment signed between Argentina and France.⁶⁹ The company eventually filed a suit before ICSID against the state.⁷⁰

In view of mounting hostility between the company, the government and users –who had successfully prevented new tariff increases through the courts - the WB and IMF sent representatives to the country in order to mediate between the involved actors and add a layer of pressure to the government for resolving the conflict. Both IFIs confirmed via a note to the Argentine Ministry of Economy that the mission did not seek 'to make recommendations for specific changes to the contracts or tariffs, but to get acquainted with the general situation of the renegotiation and to assess the framework in which it is being carried out'.⁷¹ The team would meet with executives from the foreign companies operating public services in Argentina to discuss the restructuring of their defaulted debts with the WB Group. It also expressed to local functionaries its concern over the involvement of local tribunals in the tariff renegotiation process, provoking the outrage of user associations and the ombudsmen.⁷²

By September 2003, with a new government in charge of the renegotiations, the attitude towards the companies operating public services became more stringent. Every privatisation contract in force was reexamined and the restatisation of services therefore became a concrete option in official discourse. Aguas Argentinas' failures to meet its commitments made it an early candidate for contract revocation.⁷³ Simultaneously, the IFIs increased their pressure by linking the rescheduling of their credits with Argentina to the success of the renegotiations with all firms operating privatisations, accusing the country of delaying the talks on purpose and of not really having the will to negotiate. The team of technical assistants of the IMF and

Water and Sanitation: institutional, socio-political and cultural dimensions', School of Geography and the Environment, University of Oxford, April 22-23, 2002.

69 Signed on July 3rd, 1991; in force since March 3rd 1993, a month before Aguas Argentinas assumed the provision of water services to the city of Buenos Aires.

70 The Ministry of Economy replied by publicizing an official report revealing that the company was not enduring an operational deficit that allowed it to ask for further tariff raises. This document also surveyed the non-performance of its infrastructure investment plans and how tariffs had risen between 54 and 65 percent since 1993. In this light, user associations demanded that the state ended the contract (See Ministerio de Economía/Comisión de Renegociación de Contratos de Obras y Servicios Públicos, Informe de Cierre Fase II, 2002, available online at http://www.mecon.gov.ar/crc/aguas_final_fase_ii.pdf) Aguas Argentinas' suit was dropped by the company in February 2006 in order to facilitate the transfer of the management of the service to potential replacements in the concession. Suez and Aguas de Barcelona, on the other hand, did not withdraw their individual suits as shareholders of the company.

71 Text of the note quoted in *La Nación*, February 11, 2003. The note was co-signed by the WB and IMF directors for the region.

72 See *La Nación*, February 13, 2003. The executives from the privatised companies expressed to the WB/IMF assistance team the need for an emergency tariff adjustment in order to keep providing the services, the setting of an indexation mechanism for tariffs and that the regulatory framework was redesigned to establish more clearly the concessionaries' obligations.

73 *La Nación*, September 15, 2003. An ultimatum to invest under sanction of revoking the privatisation was released in November 2003 and accepted by the company. The state also wanted to assume a more active role, divesting the company of some of its competences. For example, it started to collect the sums that were destined to infrastructure projects and directed the works, deciding where and when to construct, only leaving to the company the maintenance and management of the service.

WB returned in 2004, with the renegotiations still pending, urging the country to conclude them once and for all. A transitory act was signed with Aguas Argentinas,⁷⁴ but the final contract and the new regulatory framework to be sent to Congress was still in the works. In late June 2004, when the WB had to discuss the granting of two credits amounting 700 million dollars to Argentina, the Board of Directors was divided: G7 countries that had nationals affected by Argentina's private debt default opted to abstain or vote against Argentina, and insisted on a final solution to the renegotiation of contracts and tariffs. Analysts deemed that the approval or denial of these credits by the WB would in turn influence the decision that the IMF takes on the restructuring of its own credits and the disbursement of new ones to Argentina.⁷⁵ It became evident that complying with the demands of the private companies operating private services in Argentina would be a precondition to mend the relationship with IFIs after the collapse of the local economy. Once the country committed itself to end the renegotiations processes, the WB Board of Executive Directors unanimously consented to the new loans, which were in part aimed at reestablishing an investment climate in Argentina.⁷⁶ WB Group support to the company was strengthened when the IFC accepted to restructure Aguas Argentinas's private debt with them, reducing it by 35 percent.

Suez threatened to end the contract, warning about the effects that the restatisation could have on the investment climate of the country and on the pending suits before ICSID, which amounted to more than 20.000 million pesos.⁷⁷ The decision to end their operations in Buenos Aires was finally taken by Suez together with the other major share-holder, Aguas de Barcelona, in September 2005, arguing two years of fruitless negotiations for new tariffs. The Argentine state threatened to sue the company if they did not ensure the provision for the following year, while the transition to a new operator was implemented. In March 2006, the state notified the company that it had decided instead to rescind the contract, arguing Aguas Argentinas' many breaches of the contract, and to revert water services to public hands.⁷⁸ Following the announcement, the IFC opted to remain silent.

3. Lessons to Learn from the Privatisation of Water Services in Buenos Aires

3.1 The Importance of a Sound Legal and Regulatory Framework

The failure of the privatisation of water services in the city of Buenos Aires is due to the confluence of two main factors. On the one side, privatisation of public services was introduced in Argentina by the Bank through its policy lending programs and technical

74 The agreement included the promise not to raise tariffs until December 2005, the suspension of the payments of the debts accumulated by the company from ETOSS's fines, the implementation of a 242 million pesos investment program and the suspension of the suit filed before the ICSID.

75 La Nación, June 29, 2004.

76 La Nación, June 30, 2004.

77 Suez, who was also handling the water services of 15 important cities in the province of Santa Fe, announced shortly after, in May 2005, that it would end its operations under the name Aguas de Santa Fe and concentrate in pursuing the renegotiations to save its contract in force for the city of Buenos Aires. It still operated Aguas Cordobesas, in the province of Cordoba, though it would announce in April 2006 its intention to step aside from that concession as well.

78 National Decrees 303/2006 and 304/2006, March 21, 2006. The provision would be in charge of a new public enterprise called AYSA (Aguas y Saneamiento Argentinos Sociedad Anónima), with 90 per cent of its share in the hands of the state and 10 per cent in the hands of the employees of Aguas Argentinas through the programs of shared ownership. Currently, the water services of the provinces of Buenos Aires, Santa Fe, Catamarca and Tucuman are public as well after their own failed experiences with privatisation.

advice services as a neoliberal measure that would become a first step to remedy the grave crisis hitting the country in 1989.⁷⁹ Consequently, Argentinean popular opinion and statesmen embraced it without previously undertaking the delineation of a solid legal and regulatory framework or the creation of those institutions that are indispensable for protecting users' interests. Many of the problems related to the privatisation of OSN that would be eventually regretted were the result of a rushed and poorly executed privatisation process and had their root in its unprofessional implementation.

The fragility of the regulatory framework is well illustrated by the role of ETOSS. Its independence and efficiency were put in question on several occasions, having been a victim of politicisation and being bypassed many times by higher spheres of the national administration that were suspiciously more willing to comply with the terms of the company. In addition, the inexperience and lack of training of many of the officials involved in the supervision of Aguas Argentinas' performance allowed the company to mold the contract to its convenience within the first five years of its life. Before long, Aguas Argentinas was exerting monopolistic power at will over the fees and directly contributing to the recession that struck the country from 1999 to 2002.

Two of the most significant deficiencies of the legal and regulatory framework included firstly the lack of transparency of the regulatory agency's work and secondly the consequent absence of user participation in the oversight of the company's performance. Indeed, ETOSS neglected its main mission by failing to timely collect the relevant information to assess the compliance of the company with the terms of the contract and to react opportunely. However, by not publicly disclosing available information, it also prevented user associations from performing such a task via available channels within the administration or before the courts.⁸⁰ ETOSS and the government equally minimised the importance of user participation by not convoking them to expose their grievances in the major renegotiations that took place, including the 1997 one. The summoning of public audiences by the regulatory entity to inform users and allowing them to be heard did not happen until later in the process and often coincided with electoral periods where local politicians sought to ingratiate themselves with the population and address their concerns. These hurdles to stakeholder participation in the monitoring of water services provided by a private company represented a direct violation of even constitutional provisions⁸¹ and added to the sense of legal uncertainty that reigned over the concession in Buenos Aires. It must also be said that water users in turn failed to organise themselves appropriately, which prevented them from acting efficiently in defense of their interests since the beginning of the concession. Their activism became prominent only after the effects of the 1997 renegotiation were fully in force and affecting the income of households in the context of a grave economic recession.

Perhaps the main lesson to learn from the forgettable experience of the city of Buenos Aires with privatisation of water services has to do with the importance of establishing clear rules by which both sides of the privatisation contract must abide. These rules must ensure the existence of effective monitoring of private companies by the state, safeguarding of water users' interests, transparency and public participation in water management. Only in the

79 'The earlier ESW studies supplied data that provided functional input for the [Argentine] Government's privatisation program, and provided justification for the Bank to begin lending later in the period to help finance the effort' (*See Argentina: Country Assistance Review 27, note 30 above*).

80 User associations denounced on numerous occasions that ETOSS was putting a major obstacle to their optimal participation in the surveillance of the company by not sharing information. See for example 'El alza del agua es todavía un misterio', *La Nación*, February 20, 1998.

81 *See* art. 42 of the Constitution of Argentina, last reformed in 1994.

presence of legal certainty and of effective institutions can the state monitor the performance of multinational water companies operating in its territory. This ideal scenario includes the use of the mechanisms and alternatives that democratic institutions offer. For instance, it is essential that the decision to privatise essential public services such as water and sanitation is debated in Congress and that independent parliamentary commissions oversee the execution of the contract together with the regulatory entities, drawing the attention of the latter to problems and irregularities. In the case of Argentina, the regulatory role was left early on in the hands of the executive; while this option can accelerate decision-making, it can also mean that decisions are rushed and product of pressure from local and international lobbies.

3.2 Increasing the Accountability of the International Institutions Involved

The second contributing factor to the failure of the privatisation of water services in Buenos Aires can be seen to go beyond the role of the state and can therefore be categorised as 'external'. The degree of accountability of the IFIs involved in the process, in particular the WB, has a significant part to play. In effect, even though WB staff were aware early on of the negative effects that a deficient legal and regulatory framework could have in the mid and long term on the outcomes of a privatisation process,⁸² the Bank failed to react to the warnings of its own research teams by continuing to support the Buenos Aires water privatisation operation and granting loans to Aguas Argentinas through the IFC despite the poor performance of the company.

Much like the IMF, the WB had put itself in a difficult position by holding Argentina as an example of the benefits that could derive from reform. With its reputation and the adequacy of its trademark policies at stake, the Bank could not but try to save the privatisation in Buenos Aires for as long as possible. The frequent visits by WB/IMF teams to the country, their meetings with governmental and company representatives to intercede during the toughest phases of contract renegotiations, and the disbursements and debt reductions granted by the IFC to Aguas Argentinas are thereby explained.

However, the WB's support of Aguas Argentinas is still remarkable. By the premature end of the concession, 'the World Bank together with the Inter American Development Bank and local Argentine banks [had] provided all but 30 million of the 1 billion dollar needed investment for infrastructure to Suez when it took over the operations...'⁸³ And yet all these disbursements could not prevent that to this day 1.5 million households in Buenos Aires still lack access to drinking water and 3 million are not connected to the sewerage network. They also could not prevent the company's criminal prosecution for the high levels of nitrates in tap water or the legal actions related to the pollution of the Rio de la Plata River initiated before national courts - both suits originating in the constant delays in the maintenance and construction of new infrastructure that had been foreseen in the original version of the contract.

A review of the WB's operations in Argentina by its own accountability organs is essential in ensuring the proper application of Bank policies and procedures.⁸⁴ In particular, since the main involvement of the World Bank Group in the privatisation of water services in Buenos Aires took the form of financial support to Aguas Argentinas by the IFC, the role of the

82 See Argentina: Country Assistance Review 6, note 30 above.

83 IBON Databank and Research Center, *Water Privatization: Corporate Control versus People's Control* 90 (Manila: IBON Books, 2005).

84 See the role of the OED and the Inspection Panel. The latter, however, covers mainly IBRD and IDA infrastructure projects (project lending).

Office of the Compliance Advisor Ombudsman (CAO) can be raised. The aim of the CAO exerting its ombudsman function is to handle a complaint in order ‘to identify problems, recommend practical remedial actions and address systemic issues that have contributed to the problems, rather than to find fault’.⁸⁵ The CAO in its advisory function has provided valuable guidelines for the IFC to supervise more efficiently the projects it is involved in and address adverse environmental and social consequences. In this sense, the CAO states that the ‘IFC should seek to increase and exercise its leverage. Environmental and social issues should be included in legal covenants. Similar to the World Bank and private banks, IFC should consider suspending loans or withdrawing from projects whose environmental and social performance present unacceptable risks to IFC’.⁸⁶ This explicit recommendation was too late for the city of Buenos Aires, though its strict application by the IFC is yet to be proved.

In summary, the Buenos Aires experience with water privatisation illustrates the deficiencies of a privatisation process dominated by improvisation and disregard of fundamental social and environmental factors by the government, breaches of established rules and practices by the private operator and unconditional support from an IFI that fails to address its own failings.

4. Concluding Remarks

Whether the WB Group has learnt from the failed experience in Buenos Aires and other water privatisation operations such as the ones that have taken place in Manila or Cochabamba is not easy to assess. On the one hand, it still supports the involvement of the private sector in water resources management and service provision as an essential requisite for granting access to everyone to safe drinking water and adequate sanitation. The Bank remains convinced as well that the private sector is key in reducing the cost of services and increasing accountability.⁸⁷ This insistence towards the privatisation of water services is both remarkable and disconcerting. Above all, because there are no in-depth studies by the Bank that have assessed the existence of alternatives to privatisation of the water sector.

If there is a genuine will to improve both the coverage and efficiency of water services, making water available to all groups despite their economic capabilities, then the privatisation solution should be reconsidered. Primarily because, as the privatisation in Buenos Aires demonstrates, private companies will privilege those areas where profit is bigger and risk-free. This means that there is a fundamental contradiction in resorting to privatisation as a means for the expansion of the water and sanitation networks and the connection of the poorest sectors of the population to the service. If the behaviour of Aguas Argentinas is any indication of the general *modus operandi* of private companies, privatisation of water services is going to be characterised by the strict application of market principles to the management of a public service in which not every opportunity for making profit and savings should be enjoyed. WB policy is that private entities will contribute to extending network coverage so as to service new customers and increase profits. However, as

85 CAO, Information about the CAO Ombudsman Process, at <http://www.cao-ombudsman.org/html-english/ombudsman.htm>

86 CAO, Review of IFC’s Safeguard Policies 53, Washington DC: CAO/IFC/MIGA, 2003. It also affirmed that ‘during supervision IFC should track appropriate indicators to monitor whether its project-specific development objectives are being met, particularly whether its intermediary operations are financing sustainable and environmentally sound private enterprises. It should take action if they are not’ (p. 58).

87 WB/IBRD, Water Resources Sector Strategy 19 (Washington D.C: WB, 2004).

Aguas Argentinas proved, sometimes it can be more profitable to service areas already covered by the network and delay every investment commitment related to its expansion; especially the construction of sanitation infrastructure, which is particularly costly.⁸⁸ In situations where there is a lack of regulatory framework, such as was the case in Argentina, a private company will certainly take advantage.

The WB's purpose is confessedly to eradicate poverty, though privatisation of services may contradict its core mission. In Buenos Aires, it was the sector of the population with the lowest income that suffered the most with the constant modifications of tariffs. As Karina Forcinito exposed at the Third World Water Forum in March 2003, Aguas Argentinas succeeded in nine years to change the nature of the original contract, transfer investment risks to users, introduce new fixed charges to the bill and in raise tariffs 88.2 percent. By 2003, the poorest families in the metropolitan area of Buenos Aires were spending nine percent of their income for drinking water and sewerage.⁸⁹

If anything, the Buenos Aires experience should be taken as a case study that demystifies privatisation and proves that it can actually spark benefits or major prejudices, depending on the seriousness and capacity with which it is implemented. The Bank still trusts privatisation for improving water services, though it now seems open to partnerships with the public sector in water infrastructure, and stresses the obligation of the public sector to establish a solid legal and regulatory framework as an essential requisite for privatising public services.⁹⁰ In this sense, recent Bank studies show that the organization is aware of what is needed for privatisation to succeed and which mistakes should be avoided. Taking into account the experience with privatisation of water services in Ghana in 2003,⁹¹ it appears the Bank cannot apply the lessons learnt from past failures to new privatisation endeavours. More discouraging is the fact that this incapacity should be linked to its preoccupation for saving face by not acknowledging and remedying errors.

88 In this sense, the failure of Aguas Argentinas to invest is still perplexing given the huge numbers that it made during the 90's, before it could argue that the macroeconomic policies that Argentina took for trying to palliate the recession had affected the financial balance of the concession contract and prevented them to follow the investment plans as agreed.

89 D. Aspiazu and K. Forcinito, *Privatización del Agua y Saneamiento en Buenos Aires. Historia de un Fracaso*, paper presented at the III World Water Forum, March 2003, on file with the author.

90 'While private investment and management are playing, and must play, a growing role, this must take place within a publicly established long-term development and legal and regulatory framework' (*See Water Resources Sector Strategy 12*, note 87 above).

91 See R. N. Amenga-Etego and S. Grusky, 'The New Face of Conditionality: The World Bank and Water Privatization in Ghana', in D. McDonald and G. Ruiters (eds), *The Age of Commodity: Water Privatization in Southern Africa* 275-290 (London: Earthscan, 2005).

RADHA D'SOUZA, DAMS, 'DEVELOPMENT' AND INTERNATIONAL LAW

1. Introduction*

Two events of significance for freshwater resources in the 'Third World' occurred in 1997. One was the setting up of the World Commission on Dams (WCD) by the World Bank in March 1997. The other was the adoption by the UN General Assembly of the Convention on Non-navigational Uses of International Watercourses in May 1997 (UN-IWC). The first development was the culmination of a sustained critique of large dams by environmental and social justice movements in the 'Third' and 'First' worlds alike (The World Conservation Union and The World Bank 1997; World Commission on Dams 2000). The critique of large dams occurred in the context of the rise of neo-liberal transformations within international organisations. The second was the culmination of sustained efforts to create a legal framework to resolve transboundary conflicts over freshwater that would pave the way for transboundary institutions for water projects and dispute resolution. Development of the UN - IWC spanned nearly all of the post-World Wars period of economic 'development' and concluded against the context of rising concerns about 'water wars' and security (Starr 1991; Uitto and Duda 2002).

Both events were about dams and development, yet the discourses around the two events ran parallel without convergence or contestation, intra-discourse. Ex-facie, the two events were viewed at best as a coincidence. There is nothing in the events per se that suggest the possibility that there might be something more to the absence of connections in the discourses on the two events. This paper argues that the insular yet related discourses on dams, development, water conflicts, and international water law render opaque a political programme for restructuring the international regime for regulating freshwater resources along neo-liberal principles. The opacity is sustained by disciplinary exclusions, especially the mutual exclusion of critical and sociological legal theories in the critique of development and critical development theory in discourses on international law. Thus the *absence* of discourse on the interconnections between the two events constitutes a problematic in its own right.

2. The World Commission on Dams

Throughout the post-World Wars era, large dams have been the foci of bilateral and multilateral development assistance under the aegis of UN organisations and 'Third World' developmental states.¹ This is because in the post-World Wars international political economy, dams became inextricably tied to industrialisation and a new international division of labour based on cheap agricultural production, cheap labour, consumerism and transferring environmental costs to the 'Third World'. By mid nineteen nineties there developed a widespread critique of large dams within the academe and outside. There were a number of strands to the critique. Popular movements of displaced people in 'developing' countries challenged developmental models promoted by international organisations most prominently, the World Bank (WB) (Baviskar 1995; Fisher 1995; Imhof 1997; Sklar and McCully 1994;

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¹ The United Nations publication series from 1949 to the present, first as 'Flood Control Series', later continued as 'Water Resources Series' is useful to trace the changes in the priorities and approaches of bilateral and multilateral organisations to water resources and river basin development.

Thukral 1992). The environmental critique was the other (McCully 1994; Worster 1983). Systems for accountability of international development agencies (Clark, Fox, and Treacle 2003) and internal reviews of lending policies (Morse and Berger 1992; The World Conservation Union and The World Bank 1997) followed the critique of development models (Escobar 1995; Leys 1996; Moore and Schmitz 1995; Sachs 1992). In this context the WCD was a significant event in that it rallied different 'stakeholders' in water and attempted to arrive at a lowest common denominator on standards and processes that was acceptable to all the 'stakeholders' (Dubash et al. 2001). The WCD was necessitated by the widespread critique of large dams. The critique of large dams was not the *only* factor that necessitated the WCD however. Without minimising the importance of the critique of large dams based on development models in the post World War II period of state-centred development, it is necessary to interrogate the structural transformations that were underway which provided the context for the WCD.

The most significant structural transformations were the end of the Cold War in global politics with the dissolution of the Warsaw Pact and the Union of Soviet Socialist Republics in 1991; and the formation of the World Trade Organisation (WTO) in December 1994 in the global economy. Briefly recapping the institutional arrangements for regulating the global economy at the end of World War II, the Bretton Woods agreements envisioned the creation of three institutions, the International Bank for Development and Reconstruction, (IBRD) later World Bank (WB), to regulate banking, lending and finance; the International Monetary Fund (IMF) to regulate fiscal matters, exchange rate mechanisms and balance of payments matters between states; and the International Trade Organisation (ITO) to regulate global trade. Of the three functions, international trade did not acquire an independent institutional framework and legal persona in international law. The Economic and Social Council of the UN convened an international Conference on Trade and Employment and through the Havana Charter resolved to set up the ITO. The resolution was never effectuated and the ITO never set up. Nevertheless the interim arrangements to regulate trade through the Interim Committee of the International Trade Organisation (ICITO) continued.

The ICITO operated organisation alongside WB and IMF, but as an interim arrangement without a clearly defined legal persona. The status of the ICITO and GATT agreements within the UN were affirmed through exchange of letters and notes between the ICITO and the Secretary General of the UN from time to time. The exchange of letters gave the ICITO *de facto* status of a specialised agency with all the privileges, administrative authority and involvement in the international economy due to a specialised agency of the UN, but without the legal persona. A note by the Secretariat of the UN by the Ad Hoc Committee on the Restructuring of the Economic and Social Sectors of the United National System, on Relations of the General Agreement on Tariffs and Trade with the United Nations states:

The 1952 letters also confirmed that the existence of the above arrangement [the ICITO as an interim arrangement], coupled with the close *de facto* working arrangements which existed between the United Nations Secretariat and the secretariat of the Interim Commission, rendered it unnecessary to make separate or formal agreements between the CONTRACTING PARTIES and the Economic and Social Council relating to the work of the General Agreement. This formal exchange of letters defined, and continues to define, the relationship between the CONTRACTING PARTIES and the United Nations, under which *GATT is treated as a specialized agency on a de facto basis*. As a result arrangements of a practical nature have developed in the course of years covering inter alia the following areas [the note expands on a number of areas] [*Italics added*].(United Nations 1976).

This is not the place to engage the question of the nebulous status of international trade in the post-World War II world order and the reasons why it became the site from where global neo-liberal restructuring of relations between states, between International Organisations and between states and International Organisations occurred at the end of the Cold War. It is sufficient to note that: (a) such restructuring was underway when the WCD was set up; (b) of all international organisations the ICITO was most ad hoc and the least developed institutionally; and (c) therefore a site most amenable to lead the regime changes in the post Cold War world.

The Marrakesh agreement decided to set up the WTO in December 1994. The decision ended the ad hoc status of the ICITO and transformed it into a new International Organisation with a constitution and independent legal personality. In other words, the WTO became an independent institutional player in its own right. Unlike other International Organisations set up in the context of the World Wars, the WTO became a global regulator unconstrained by the post-World War role for states in the economy, domestic and international. That the functions of the WTO was to *restructure* institutional relationships between states, between international organisations and between states and international organisations is borne out by a ministerial declaration signed in December 1993 towards the end of the Uruguay Round, the last round of GATT negotiations under the ICITO. The Declaration spells out the brief for the WTO which was to be set up the following year. It may be useful to quote the Declaration at some length.

2. [...] Ministers note the role of the World Bank and the IMF in supporting adjustment to trade liberalization, including support to net food-importing developing countries facing short-term costs arising from agricultural trade reforms.

3. [...]

4. Ministers recognize, however, that difficulties the origins of which lie outside the trade field *cannot be redressed through measures taken in the trade field alone*. This underscores the importance of efforts *to improve other elements of global economic policymaking to complement the effective implementation of the results achieved in the Uruguay Round*.

5. The interlinkages between the different aspects of economic policy require that the international institutions with responsibilities in each of these areas follow consistent and mutually supportive policies. The World Trade Organization should therefore pursue and develop cooperation with the international organizations responsible for monetary and financial matters, while respecting the mandate, the confidentiality requirements and the necessary autonomy in decision-making procedures of each institution, and avoiding the imposition on governments of cross-conditionality or additional conditions. Ministers further invite the Director-General of the WTO to review with the Managing Director of the International Monetary Fund and the President of the World Bank, the implications of the WTO's responsibilities for its cooperation with the Bretton Woods institutions, as well as the forms such cooperation might take, with a view to achieving greater coherence in global economic policymaking. (Italics added) (Ministerial Declaration: Trade Negotiations Committee 1993).

What is important is this. Once global restructuring of institutional relationships from state to market regulation entailed in neo-liberal transformations had begun, there was no way a

sector as important as water could remain outside the transformative processes underway.² Comprehending the role of agency in the ‘social whole’ *that is in the making* requires understanding how different social actors responded to the initiatives to restructure the regulatory regime for water and why.

A meeting of different ‘stakeholders’ including representatives from dam industry, governments, academia, NGOs and civil society groups involved in anti-dam movements, convened by the WB and the World Conservation Union (IUCN) on March 1997, resolved to set up the WCD, a body representative of the ‘stakeholders’, with two objectives: (a) to review the effectiveness of large dams and assess alternatives for water resources and energy development; and (b) to develop internationally acceptable criteria, guidelines and standards for planning, design, appraisal, construction, operation, monitoring and decommissioning of dams (World Commission on Dams 2000: p.2).

Methodologically, the work programme of the WCD was comprehensive in that it was based on a *WCD Knowledge Base* drawn from eleven case studies, seventeen thematic reviews, surveys of one hundred and twenty-five dams in fifty-six countries, four regional consultations in Africa, Middle East, East and Southeast Asia, Latin America and South Asia, nine-hundred and fifty submissions from seventy-nine countries and input from WCD Forum at which seventy organizations were represented. The thematic reviews were under grouped under five categories: (i) social and distributional issues, (ii) environmental issues, (iii) economic and financial issues, (iv) options assessment, and (v) governance and institutional processes, and supported by over a hundred commissioned papers. The *WCD Knowledge Base*, thus, encapsulates a spectrum of diverse, conflicting and contradictory views and policy debates on dams and water resources at this point in time. The synthesis of divergent views of the ‘stakeholders’, the thesis and antithesis entailed in their discourses, finds a point of convergence in the way all ‘stakeholders’ conceptualise the law. This convergence in the way law is conceptualised is significant for ‘manufacturing consent’ for the regimes changes in the regulation of water. We return to regime transformations for the water sector below, but before that it is useful to examine the other important strand in the regime change for water, the UN-IWC.

3. The UN Convention On Non-navigational Uses of International Watercourses (UN-IWC)

The UN-IWC was the culmination of a number of parallel strands of developments relating to regulation of water resources in the post war era. The development of international law on transboundary waters parallels the emergence of large dams and spans the length of the post-World Wars era (Teclaff 1967; Teclaff 1991). The 1923 Geneva Convention on the development of hydraulic power affecting more than one nation developed by the League of Nations was limited and its further development thwarted by the events of the Depression and World War II. After the end of World War II, the constitutive strands that led to the UN-IWC include: (a) the need for a legal framework for transboundary waters felt by private international lawyers who were required to provide legal services for the expanding dam industry; (b) Article 13(1)(a) of the UN Charter that gave the mandate to codify international

² Again this is not the place to engage with the rise of neo-liberal restructuring within the important centres of capital signified by Reaganomics, Thatcherism and such, and the restructuring of the relations between the centres and international organisations in the UN system. It is sufficient to note that such an engagement is possible.

law; and to ensure peaceful settlement of disputes and promote cooperation under Articles 1 and 2; (c) the involvement of UN International Organisations, economic, developmental and scientific (IO), in water resources development which created harmonisation of principles and practices and laid the basis for a UN convention; (d) the emergence of environmental law and the duties of states to prevent transboundary pollution and to promote environmental practices developed by International Organisations; and (e) concerns about environmental security and water as a possible source of security threats especially since the 1990s, that provided the rationale for international law on transboundary waters.

From 1945 a growing number of river water disputes and an expanding dam industry provided the impetus for legal initiatives from private organisations of law professionals and experts most notably the Rivers Committee of the International Law Association (ILA), a professional body of lawyers in the United States (US). The ILA set up a Rivers Committee in 1954 to develop the law on utilisation of river waters (Bagdanovic 2001; Bourne 1996). The ILA developed the Helsinki Rules on the Uses of Waters of International Rivers 1966 (Helsinki Rules) that provided a conceptual framework for regulation of rivers and utilisation of freshwaters and conflict resolution arising from water projects. It became, *de facto*, the international law on transboundary water for nearly three decades. Not surprisingly the orientation of the Helsinki Rules was to facilitate global water industry and transboundary projects.

Although the UN General Assembly adopted a resolution in 1959 to study the problems relating to the utilisation of international rivers in order to determine if codification of the law by the International Law Commission (ILC) was required, the resolution appointing the ILC to codify the law was adopted only in 1970. 'Developing' countries had had limited influence or role in the development of Helsinki Rules. When Finland (a country with little interest in dams or development or international rivers) moved a resolution to adopt the Helsinki Rules as UN law, i.e. as public international law, the objections from 'developing' countries forced the UN to adopt the resolution for codification of the law on watercourses in 1970 (Tanzi and Arcari 2001). The context of the 1970s was important.

The 1970s saw the emergence of 'North' 'South' tensions with the rise of 'dependency theories' within the Economic and Social Council of the UN, calls for a New International Economic Order and the UNCTAD as institutional vehicle to address the perception of failure of 'development' and unequal economic relations the post-World Wars era. During the three UN Development Decades, states and international organisations were the principal actors on transboundary water resource development. 'Private' interests, including industry, agriculture, electricity producers and other consumers and users depended heavily on states and International Organisations to safeguard their interests. Governance over water during this period was largely through administrative mechanisms and state bureaucracies on the one hand and International Organisations and UN bureaucracies on the other. In other words, both IOs and States followed 'rule by men'. The codification mandate complemented the 'development' mandate in the UN Charter. The codification mandate also prepared the ground for 'rule by markets' on a global scale.

The rise of the environmental movements, especially after the 1972 UN Conference on Environment and Development's Stockholm Declaration, the 1987 World Commission on Environment and Development's Brundtland report and the rise to prominence of environmental policies in the IOs eroded the state sovereignty principle in law and developed new ways of conceptualising international law wherein the sanctity of state sovereignty was watered down by the sanctity of the 'whole earth'. The end of the Cold War also saw the rise

of new security concerns and new ways framing military and defence issues. Environmental security concerns rose to prominence as a result and ‘water wars’ became a topic for public debate. In turn both these strands of development contributed to the finalisation of the UN-IWC.

The contentious nature of the proceedings of the ILC in codifying international law on transboundary waters which prolonged the finalisation of the UN-IWC, and later its ratification by states, suggests real contradictions in relations over water internationally between states.³ After nearly thirty years of deliberations the UN General Assembly adopted the UN-IWC in 1997. The UN-IWC does not yet have the required number of signatories to bring it into effect. Like the WCD report, the UN-IWC too fructified against the backdrop of the global rise of neo-liberalism. A sociological analysis of the nature of the differences and the contradictions between states in the ILC’s work eludes water resources studies.

The Helsinki Rules had profound influence on the framing of the UN-IWC and on interstate and intrastate water regimes (McCaffrey 1991). In turn, although technically a framework convention, the normative ramifications of the convention are significant (Tanzi and Arcari 2001: p.24-32). The influence of the UN-IWC is profoundly ideological and conceptual in that it conceptualises the legal and institutional framework for dam projects, promotes regional and economic integration, defines ‘equitable’ and ‘reasonable’ utilisation, and most importantly, provides the legal basis for transnational institutions, mechanisms for dispute resolution, management of water conflicts and water security. In other words it defines legal relations over water between different global actors.

The conceptualisation of relations over water in the UN-IWC informs the work of international organisations such as the World Bank, the UNEP and other agencies on sustainable development policies and lending for dams. The convention creates a space for third party interventions by IOs such as the World Bank and the GEF (Duda and Roche 1997). The principles provide the legal basis for resolution of intrastate water conflicts within domestic jurisdictions in a federal state. It is therefore significant that in the WCD proceedings, the UN IWC, a framework convention, went largely unchallenged and accepted by all ‘stakeholders’ as a matter of course (Millington 2000). The *equitable utilisation* principle, the cornerstone of the UN-IWC, is controversial as it raises questions about social values, values in selection of technologies, conceptualising corporations-state-citizen relations and what constitutes ‘human development’ and ‘sustainable development’ (D’Souza 2006: p.464-467, 467), in other words the very issues at the heart of the WCD proceedings. The critique of large dams in social sciences and by social movements stops within national boundaries. They do not extend to international law and the global legal regime that underpins large dams and sustains commodified relations over water between users, appropriators and ‘stakeholders’.

Instrumentalist conceptualisation of *development* grounded in empirical approaches of the WCD and the positivist approaches of the ILC do not suggest anything suspect in the absence of any apparent connections between the two events that are so closely tied to dams and *development*. Both approaches decontextualise the legal and institutional developments from the overarching backdrop of the global rise of neo-liberalism. The problem of two parallel yet apparently unconnected developments in relation to water resources arises only if the problematic is re-framed as: is it possible that two major developments relating to dams and development, both of major significance to regulation of rivers, both having their genesis in

³ For voting patterns on the UN-IWC see (Wouters 2003)

post-war developments, both emerging against the backdrop of neo-liberal reforms globally, are unconnected? Reframing the question in that way opens up conceptual spaces to draw out the common grounds between the two proceedings and to bridge the gaps in the discourses over large dams in social sciences and international law on development of water resources.

4. State v Market Regulation in Law

To assert any connection between the two events, it is necessary to begin by acknowledging that both events undertake to transform the legal regimes for water in different spheres. The WCD develops rules, principles, guidelines and policies to regulate appropriation and use of water within national jurisdictions. The UN Convention develops rules, principles, guidelines and policies to guide appropriation and use of transboundary water between states internationally. Acknowledging that law is involved in both the events makes it possible to begin by interrogating the law as a point of departure to understand the hiatus in the discourses about the two events and the political programme that underpins them.

It is widely accepted that neo-liberal transformations involve rolling back the state, and is associated with liberalisation and privatisation in economics. Differences in the characteristics of ‘the law’ under state regulation and market regulation may be less apparent. In essence the difference lies in the institutional framework for ‘the law’ seen as a set of rules and principles. Markets undertake ‘enactment’ and ‘enforcement’ of law in very different ways from states. An extended period of state regulation of economic regimes has familiarised us with certain legal *forms* that are now seen as essential features of the law by many, especially social scientists. These features include: (a) conflating law with statute law; (b) an instrumentalist view of law that sees state agencies achieving certain outcomes mandated through statutes, rules, regulation and policies; (c) law as a set of imperatives for different social actors to abide by; (d) law as comprising two distinct domains, the ‘public’ the ‘private’ domains; (e) regulation through the institution of the civil service, the executive and in the final analysis the legislature, all operating under public law principles.

Market regulation, the characteristic feature of law under neo-liberalism, involves regulation through market institutions. Market institutions involve setting up authorities/agencies/organisations that operate under a distinct set of institutional rules autonomous from the state. Rolling back the state thus entails autonomy from conventional rules that govern state institutions comprising the civil service, the executive and rules of parliamentary procedures. Legal instruments under market regulation routinely take the form of setting up regulatory authorities to regulate a specified field in market relationships: e.g. competition, inflation and currencies. The regulatory authorities set up norms for the actors within that field and take steps to ensure actors conform to the norms for that field. The type of instruments used to regulate the market may include voluntary codes, industry standards, dispute resolution mechanisms amongst others, all operating on private law principles. Social policies too are brought under market instruments. Hence the emphasis in more recent times on ‘corporate social responsibility’, labour market regulation through inflation policies and new institutional models for tertiary education funding.

State regulation rationalises economic regulation on the basis of ‘public’ good in the name of society. Thus state regulation retains the distinction between the economic sphere and the social sphere, the public and the private domains in law. Market regulation rationalises economic regulation on the basis of ‘public’ good but assumes economic policy *is* social policy and therefore benefits all of society. Market regulation therefore conflates the economic and social spheres, the public and private domains in law. Thus it is the

institutional context of the law, and the *type* of legal instruments used in law, that marks the point of departure for law under state and market regulation.

Both, state and market regulation share common attributes of law under capitalism, however. The common attributes include: (a) privileging of economic relationships over all other social relationships; (b) sanctifying private property rights; (c) creating and refining legal regimes, principles and instruments for appropriation of labour and environment; (d) legal polices and instruments for alienation of people from land, water, minerals and other nature resources by turning them into commodities for exchange in the market-place; (e) positive law underpinned by empiricism and positivism in social and physical sciences. The differences in the institutional frameworks for the law encompass different modes of enactment, enforcement and legitimation of the law; and different philosophies, theories and rationalisations of principles and rules. It is important to emphasise the convergences in the characteristics of ‘the law’ under state and market regulation. All too often the differences understood without the convergences create gaps in knowledge that allow insular developments in different dimensions of the same social phenomenon. The absence of apparent connections between the WCD processes on the one hand and the UN-IWC proceedings on the other in the discourses on dams and development exemplify the insular processes and conceptual gaps in the transition from state to market regulation of water resources law and development.

5. Regime Changes and Neo-liberalism

The rise of neo-liberalism since the end of the Cold War has triggered pervasive transformations in regulatory regimes in a wide range of social sectors (Braithwaite and Drahos 2000). Water is no exception. Regime changes have occurred historically during certain periods either as a result of revolutionary social transformations, or far reaching changes in the institutional mechanisms within the same constitutional order. Whatever the means, changes in regulatory regimes entail wide ranging institutional transformations and relationships between institutions in a social system.

One conceptual challenge posed by the emergence of neo-liberalism globally is the problem of human agency in regime changes. Regime theories have been criticised, and rightly, for their tendency to subsume human agency and to construct regimes premised on empirical conjunction of events and facts within narrow positivist frameworks. Regimes *need not* however be understood as a conjunction of facts and events and human agency does *not have to be* excluded in accounts of regimes (Lloyd 2002). Regimes involve relatively enduring interrelationships between institutions. The stability is achieved through ‘manufacturing consent’ achieved through reconciling conflicting interests where necessary and establishing decisive hegemony by one or more interests in society where required.

The other conceptual challenge relates to transitions from one regime to another as with the transition from the post World War II world order to the post Cold War world order. Regime transitions, the period when one regime has broken down and another in construction, are periods when the ‘social whole’ appears blurred and ideological debates by major social actors emphasise some strands in the structural changes underway over others. The processes of change are rationalised or resisted by different social actors using different *types* of arguments, usually economic arguments, political arguments or moral/ethical arguments (Darby 1987). These arguments emanate from the position of different social actors within the previous social order and the ways in which the changes impact upon them.

The dominance of positivism in law and empiricism in social sciences means, the arguments appear disaggregated and disconnected. The 'social whole' is rendered opaque as a result {Buck-Morss, 1995 #35}. The fluidity during periods of transition means the nature of the 'social whole' can be grasped only after the regime has achieved some degree of stability. The systemic coherence of regimes thus becomes visible only retrospectively. Regime theories therefore often lapse into retrospective analysis of the institutional relationships within a social order that appear to discount the social agents that brought about the transformation. The challenge therefore is to be able to envision the structural and systemic ramifications of the arguments, economic, political and moral/ethical that social agents put forward in support of or opposition to social and legal changes *during* periods of transition. The simultaneous insularity and complementarity in the WCD and UN-IWC processes provide a useful vantage point to investigate the ways in which political arguments, economic arguments and moral/ethical arguments by different social actors on questions affecting water resources development, especially the controversies on large dams, made from their positions within social structures, contribute to our understanding of the way regime changes occur.

Two most significant concerns for law under capitalism remains managing competition between economic actors and managing social conflicts following from economic developments. In relation to water resources development the concerns have been about managing the apportionment of water to different riparian users and regions; and providing mechanisms for dispute resolution arising from water appropriation and use. Neo-liberal regime changes entail transferring both functions from the institution of the state to market institutions. In classical liberal theory, the rule of markets was ensured by 'rule of law', wherein the role of the state was, in Adam Smith's words, akin to that of a 'night watchman'. Henry Maine the legal theorist who extended classical liberalism to the colonies rationalised colonial law by arguing all societies evolved from status based social relations to contractual social relations (Maine 1909). In developing law for the colonies, Maine blended social Darwinism and liberal theory, to create the basis of 'progress' as the rationale for colonialism.

In the post World War II world order, international development organisations notably the World Bank, fostered state regulation in the water sector through state economic planning, state bureaucracies and bilateral and multilateral development assistance in the post-World War II period to facilitate regimes of appropriation of labour and environment through industrial development, mechanised agriculture and infrastructure development. The transition from state to market regulation has seen the World Bank in recent times, foster market regulation in the water sector through water users' associations based on private property regimes, market instruments using user pay principles, to facilitate appropriation of labour and environment through development of industrial, agricultural and infrastructure. The policies aim to take developing countries further up the ladder of 'progress' seen as movement from 'status' to 'contract' based social relations through law reforms in line with what Sir Henry Maine envisioned for the colonies.

Under early capitalism before the World Wars, more and more relations and transactions in society assumed the form of a contract between individual(s) and/or group(s) within the umbrella of the nation-state (Tigar and Levy 1977). The legal *form* of contractual relations provides (a) the conceptual framework for social transactions; (b) the value framework for social transactions and (c) the sanctions framework (i.e. mechanisms for dispute resolution and penalties for non-compliance). In the post World War II world order, contractual social relations were *extended* to the international arena. The extension occurred by transforming economic relations between states and between states and international organisations to

(semi)/contractual legal forms. During this period the institution of the state developed a 'split personality'. The functions of the state as an institutional player in the economy, through public enterprises, manufacturing and trade was akin to 'private' institutions with monopoly status, and the political functions were cast in the mould of traditional 'public' law.⁴

The constitutional status of the International Economic Organisations (IEO) within the UN system notably the World Bank and the International Monetary Fund was legalised through the specialised agency agreements with the UN (D'Souza 2006, at p. 294). The IEOs with independent legal personality could develop contractual relations between the IEOs and states and between states *inter se* using instruments such as bilateral and multilateral aid agreements, contracts and memorandums using private law principles and dispute resolution mechanisms. Neo-liberalism takes the contract form of social relations to new heights by restructuring the relations between corporations, states and social groups, *qua collective/corporate entities* as contracting parties. In other words law under neo-liberalism creates new institutions with their own sets of rules and goals; and regulates the relationship between the institutions. Legal innovations under neo-liberalism involves developing new forms of enacting and enforcing law, new discourses for legitimating law and new institutions that will regulate relations between different types of collective entities and institutions, in the new language of neo-liberal legalism the 'stakeholders'.

Viewed in this way the WCD and the UN-IWC reconstitute different strands in the regime-changes for water along neo-liberal lines: the first restructures relations between social agents *within* nation states internally; and the other *between* states and transnational organisations and corporate entities externally.

6. Creating New Regimes: What the WCD and the UN-IWC Do.

The WCD process and the new water regime

The main rationale for the WCD was, as the title of the report suggests, developing a 'new framework for decision making'. It proposes three broad criteria to promote five core values - equity, sustainability, efficiency, participatory decision-making and accountability - all core components of 'democratic development'. The criteria are:

A rights-and-risks approach as a practical and principled basis for identifying all legitimate stakeholders in negotiating development choices and agreements;

Seven strategic priorities and corresponding policy principles for water and energy resources development - gaining public acceptance, comprehensive options assessment, addressing existing dams, sustaining rivers and livelihoods, recognising entitlements and sharing benefits, ensuring compliance, and sharing rivers for peace, development and security; and

Criteria and guidelines for good practices related to the strategic priorities, ranging from life-cycle and environmental flow assessments to impoverishment risk analysis and integrity pacts (World Commission on Dams 2000: p.5).

⁴ For theoretical viewpoints on the 'public'/'private' divide in law see University of Pennsylvania Law Review 1982 vol. 130: Special Issue on Public Private Divide with discussion and debate.

The WCD reaffirms the view that dams have made important contributions to human development; that the social and environmental costs of dams have been considerable; that technological alternatives to sustainable development of water resources need more attention; that efficiency of projects need improving and 'inefficient' projects need to be dealt with; that financial viability of projects need to be closer monitoring and lastly and most significantly for the law, the WCD Report finds that:

By bringing to the table all those whose rights are involved and who bear the risks associated with different options for water and energy resources development, the conditions for a positive resolution of competing interests and conflicts are created (World Commission on Dams 2000: p.7).

Summarising the work of the WCD it can be said that there were two different but related 'stakes' involved in the WCD process. One was the 'stakes' that different 'stakeholders' had in water appropriation and use. It included the interests of the urban and rural poor in the 'Third World' evicted from land and deprived of means of subsistence, as well as environmental concerns in the 'First' and 'Third' Worlds. The other was the 'stakes' that International Organisations and 'First World' states had in ensuring a smooth transition from a state to market regime for regulation of relations over water. This involved removing water from the 'citizen-state' framework of regulation and inserting it into 'stakeholders-markets' framework of regulation.

Not surprisingly the WCD framed the debate as 'pro vs. anti large dams' and invited all 'stakeholders' to participate in the proceedings. By participating in the proceedings the 'stakeholders' ceased to claim water as citizens with ties to a place, a location, a nation and instead claimed water as 'non-state actors' with 'stakes' in the water markets. For the purposes of the regime transformation it did not matter what positions the 'stakeholders' took on the pro vs. anti large dam controversy. Indeed many 'stakeholders' including states and non-state actors criticised the WCD report from different standpoints (Bandyopadhyay 2002; Bird 2002; Fujikura and Nakayama 2002; Iyer 2003; Navalawala 2001; Scudder 2001; Thatte 2001). Regulatory regimes create a *field* for non-state actors to 'stake' their claims. Within that field, how effectively 'stakeholders' defend their 'stakes' depends on their ability for institutional innovation, alliances with other 'stakeholders' and above all common interests in the appropriation and use of water.

The WCD process was subjected to a 'social audit' soon after it was completed. The 'non-state actors', the World Research Institute, Lokayan and Lawyers' Environmental Action Team, all non-governmental 'epistemic communities', carried out the audit. Their work was supported by the Ford Foundation, the Royal Dutch Ministry of Foreign Affairs, the Swedish International Development Co-operation Agency, the US AID and MacArthur Foundation, who were states, quasi government organisations, industry foundations and trusts with 'stakes' in regulatory mechanisms for water markets. The 'social auditors' reported:

In this report, we look at the efforts of the WCD and its initiators to create political space for diverse access to the process through

- full representation of relevant stakeholder groups on the Commission,
- independence from external influence,
- transparency to ensure the Commission's accountability to stakeholders' concerns, and

- inclusiveness of a range of views in compiling the knowledge base.

We assess how the WCD put these principles into practice and *the effect of this experience on stakeholder perceptions of the WCD's legitimacy* as the process unfolded. This approach was made possible by the time frame of our assessment, which was concurrent with the WCD.

We pay close attention to the political and practical trade-offs that the WCD faced in its efforts to create *a representative, independent, transparent, and inclusive process*. (Dubash et al. 2001: p.3.)(Italics added).

The 'social auditors' were not inquiring into whether the recommendations of the WCD were consistent with the interests of the poor in the 'Third World' and the global environment in whose name the 'anti-large dams' campaigners spoke. Instead they were concerned primarily with *'stakeholder perceptions of WCD legitimacy'* and in *'a representative, independent, transparent and inclusive process'*. What was really at stake here was *the legitimacy of new types of law-making entailed in market regulation* in a sector of economy that had become especially disillusioned with the inequitable use and appropriation of water.

Likewise, for the World Bank too the substance of the issues in the pro vs. anti large dam controversy was less important than the processes for decision making. What was important was the willingness of the 'stakeholders' to recognise and participate in the new water regime. Assessing the work of the WCD the WB states:

The focus of much controversy regarding the WCD Report has centered on the twenty-six 'guidelines,' which have been interpreted by some proponents and critics of the Report as a proposed new set of binding standards. The World Bank's conclusion on the guidelines is best summarized by the Chair of the WCD, who has explained that 'our guidelines offer guidance - not a regulatory framework. They are not laws to be obeyed rigidly. They are guidelines with a small 'g'.' Individual governments and/or private sector developers may wish to test the application of some of the WCD guidelines in the context of specific projects. In such cases, the World Bank will work with the government and developer on applying the relevant guidelines in a practical, efficient and timely manner (World Bank 2002).

In clarifying that the WCD guidelines were *'not a regulatory framework. They are not laws to be obeyed rigidly. They are guidelines with a small 'g'.*', what is clarified is that the WCD guidelines should not be seen as state regulation; they are not to be seen as 'state law' enforced through public law instruments of rights and sanctions within a citizen-state framework. Rather the guidelines are principles that will inform institutional players in the water markets; and the flexibility of the principles will allow institutional players to 'stake' their claims in the marketplace. In other words the state will be 'rolled back' to allow the market to regulate; and the neo-liberal legal *form* of 'flexible principles' will guide transactions over water. The WB developed an Action Plan comprising six complementary areas based on the WCD report, amongst them:

[...]

- * Continuing to emphasize institutional reform for more efficient use of water and energy;

[...]

[...]

* Practicing a proactive and development-oriented approach to international waters; and
[...] (World Bank 2002).

What is important is that the WCD processes would be replicated by the WB for all projects hereafter. The WB states:

The World Bank remains committed to implementation of its operational policies to ensure that: key stakeholders are systematically identified and involved in project planning and implementation; upstream meaningful consultations are held with affected groups to guide project decision making, and their views and preferences are reflected in the plans developed as an integral part of the project (World Bank 2002).

Not surprisingly since the WCD process was completed water privatisations, river privatisations and corporate players in the water markets regime have increased greatly (Earle 2001; Public Citizen 2004). The 'stakeholders' who spoke for the 'Third World' poor and the global environment now voice concerns about water privatisation and the expansion of corporate interests in the water sector (Barlow and Clarke 2002; Shiva 2002). The WB's earlier shift of emphasis to legal and institutional issues to develop markets instruments in the water sector (Kirmani and moigne 1997; Olem and Duda 1995; Rose 1998; Salman and Uprety 2002) is reaffirmed and given a green signal by the WCD. There is a proliferation of different industry, scientific and other water organisations all seeking to play in the market field of 'stakeholders'. All of these developments are consistent with principles of market regulation and neo-liberalism (Blatter and Ingram 2000; D'Souza 2005). The developments suggest the convergence achieved through the WCD process was about law-making and 'manufacturing consent' for market regulation. It was never about resolving the conflicts of interests between 'stakeholders'. Under market regulation it is the markets that do 'justice' between 'stakeholders' acting through their institutions. In the final analysis law and regulation are about processes, procedures and practices that regulate conduct/transactions between different individuals/groups and institutions in society.

Undoubtedly the 'stakeholders' who spoke for the poor and the environment, did so because of their frustrations with the 'citizen-state' model of state regulation where the state *did not* do justice to the poor and the environments. They took their chances in the 'stakeholder-market' model of regulation in the hope that they might be able to play a better role in the water markets to bring justice to those on whose behalf they spoke. In so far as both models of regulation are designed to facilitate appropriation of water for industry, for profit-maximisation, for increased rate of return on investments, the 'stakes' of the poor and the environment invite attention to the *substance* of water regimes: for whom and for what and how appropriation occurs. The substance of water appropriation transcends questions about the legal forms and processes for appropriation and use.

The UN-IWC and the new water regime

The UN-IWC, a framework convention, undertakes to codify the law on international watercourses. The mandate to codify international law derives from Articles 1(4) on 'harmonizing the actions of nations' and 13(1)(a) on 'encouraging the progressive development of international law and its codification' in the UN Charter. The UN-IWC acknowledges the special needs of developing countries. It reaffirms the need for sustainable utilisation of waters and rivers to ensure development, conservation, management and protection of international watercourses, the need for international co-operation, the Rio Declaration of 1992 and Agenda 21, and existing bilateral and multilateral agreements

(*Convention on the Law of the Non-navigational Uses of International Watercourses 1997* 1997).

Typical of statutes, the UN-IWC defines terms and concepts. Article 2 (d) defines *Regional economic integration organisation*:

'Regional economic integration organisation' means an organisation constituted by sovereign States of a given region, to which its member *States have transferred competence in respect of matters governed by this Convention* and which has been duly authorised in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it (*Convention on the Law of the Non-navigational Uses of International Watercourses 1997* 1997: Art.2 (d)). (Italics added).

Thus, Article 2(d) provides for creation of supranational organisations for regulation and management of rivers. Once formed, these supranational organisations will further roll back the states which would have 'transferred competence' on certain aspects of management of water resources to the global institution. The transnational organisation would have removed more aspects of water resources management outside the framework of citizen-state relations based on rights and sanctions. The new global institutions, with their own internal rules, objectives, procedures and practices with a legal personality will become institutional players in the water markets in their own right independent of the states that formed the transboundary regional organisation. It may be noted here in passing that the Mekong Agreement in 1995 set up the Mekong River Commission. It gave renewed impetus to transboundary dam projects on the Mekong River which had commenced in the nineteen fifties and came under cloud during the Cold War(Sneddon and Fox 2006).⁵

Part II of the UN-IWC sets out the general principles governing use of river waters and covers the substantive rights and obligation of states. Articles 5, 6 and 10 are the most significant and controversial principles. Article 5(1) develops the principle of 'equitable and reasonable utilisation' and requires that:

[...] international watercourses shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilisation thereof and benefits therefrom.

The legal concept of 'equitable utilisation' is problematic (D'Souza 2006). The concept involves assessing the role and competing interests of different 'stakeholders'. Under the UN-IWC processes the 'stakeholders' are global players are states, intergovernmental organisations and IOs acting as economic actors at a time when the role of the states within national jurisdictions has been rolled back to varying degrees. The status of other global 'stakeholders': the dam industry, power generation industry, epistemic communities, and water trading industries are privileged because their place is secured by the way equity in water appropriation and use is conceptualised. To determine 'equitable utilisation' the preamble provides the guidelines. The meaning must be derived from the United Nations Conference on Environment and Development of 1992, the Rio Declaration and Agenda 21. It follows that the meaning and application of the principle of 'equitable utilisation' must be derived from further developments of those global policies by development agencies and IOs, restructured pursuant to the interagency cooperation initiatives after the WTO was formed as

⁵ To the contrary, on the Indus River, during the Cold War the peace was kept through the interventions of IOs and states and the end of the Cold War has renewed tensions. See (D'Souza 2007, forthcoming).

discussed above. In doing this the WCD principles and guidelines will undoubtedly provide 'objective' and authoritative basis for determining what is or is not 'equitable utilisation'.

Article 6 enumerates the factors relevant to equitable and reasonable utilisation. The factors to be considered include the social and economic needs of the states, the populations dependent on watercourses, the effects of developments, amongst others. Article 6 does not create a weighting mechanism for the relative importance of the factors, or a hierarchy of priorities. In fact Article 10 explicitly states that 'no use of international watercourse enjoys inherent priority over other uses'. The key point here is that the global water regime that the UN-IWC formalises as international law *predetermines* the conditions for water appropriation and use within nation-states and within national law. The global water regime that predetermines the appropriation and use of water within natural boundaries went unchallenged because 'epistemic communities' speaking on behalf of the environment and the global poor were unable to make the connections between the UN-IWC processes and the WCD processes. Those connections could only be made by anchoring both the developments to the wider context of developments in capitalism and imperialism and the ways in which the wider processes expropriate the poor and the environment.

At the global level, legal theory hangs on to the principle that states represent their populations. If their populations comprise diverse and competing interests the states must sort out those differences within domestic jurisdictions. This is a circular argument because states have been rolled back, global institutions have emerged as major players, neo-liberalism has changed the rules of the game, and states have limited leeway to manage competing domestic interests. For the less economically powerful water users like subsistence farmers or the urban poor who must rely on their political power within a constitutional framework of national law, the willing participation of their spokespersons in rewriting the rules of the game and their willing repositioning as 'stakeholders' in the global market, is not exactly empowering.

Part III of the UN-IWC sets out the obligations on the part of States when planning water projects. Part IV provides for protection, preservation and management of rivers, Part V for emergency situations and Part VI for dispute resolution during armed conflict and project related disputes and provides for arbitration and/or submitting the dispute to the International Court of Justice. Article 33 of the UN-IWC includes the conventional mechanisms for dispute resolution mechanisms based on consensual decisions by states. Article 33 extends the conventional principles for invoking dispute resolution mechanism in international law in significant ways (Tanzi and Arcari 2001: ch. 6). Article 33(3) provides that the state parties are unable to settle their disputes within six months, then one of the state parties may request a fact finding commission to be appointed unilaterally. Article 33 also provides for a range of non-judicial third-party settlement procedures including mediation, arbitration and negotiations. The WB is imminently placed in a position to play the role of mediator. A number of UN organisations like the Global Environmental Facility (GEF) a financial body supports the idea the WB's role as mediator in transboundary water disputes (Duda and Roche 1997). These developments dovetail the WB's thinking on a greater role of the WB in mediation and dispute resolution. A mediation and conciliation role for the WB will invest it with a quasi-regulatory role between 'stakeholders'.

Conclusion

To sum up, the UN IWC creates a framework for decision making and conflict resolution *between* states on transboundary waters. It creates the legal framework for supranational

organisations that facilitates dam construction (Beaumont 2000; Nakayama 1997), in other words create new institutional players in the water markets with powerful interests in sustaining large dams. The WCD recommendations create a framework for decision making and conflict resolution between ‘stakeholders’ *within* the state by addressing questions of social equity and environmental sustainability within the framework of neo-liberal economic development. Both are informed by the same core values, concepts, ideas; both are committed to developing processes with legitimacy, for use and appropriation of water on the one hand and conflict resolution mechanisms on the other, between states and between ‘stakeholders’. Both processes are directed at building institutions capable of engaging and facilitating market transactions in the appropriation and use of water. Taken together, the WCD and the UN-IWC are complementary processes that seek to redefine new public and private spheres, create new roles for states and ‘stakeholders’ in relations to waters and rivers. Together the two frameworks seek to create a new regime by:

Providing for supranational organisations for utilisation and management of water based on core concept of the river basin as a ‘natural’ unit of regulation.⁶

Creating a framework to take the regulation of waters and rivers to the next stage of legal and institutional development: from a bureaucratic administrative form of governance typical of the post World War II period to regulation by market institutions, mechanisms and principles; in other words from take water from ‘rule of men’ to ‘rule of law’, from State to Market mechanisms of governance.

Creating communities of ‘stakeholders’ in water based on market principles, institutions and instruments.

Redefining the relations between States, International Organisations, corporations and supranational organisation within a rights-based framework in the public sphere.

Providing for international interstate institutions by requiring the states to cede some of their powers in relation to rivers to international organisations committed to facilitating water resources development for industrialisation, agriculture and power generation through private actors.

Redefining the relations between citizens *interse* within a rights-based framework in the private sphere.

A legal regime is a much broader concept in that it includes a variety of statues, policies, concepts, values, goals, instruments and mechanisms of governance that taken together define social relations over water (or any other relations) in society and prescribes the ways in and the extent to which different segments of society will participate in the regime. Law *is* about relations (Hunt 1993). Law casts different social actors into normative roles and thereby facilitates behavioural expectations that facilitate repeated transactions required for social relationships to work. Law under neo-liberalism casts different *institutional actors* into a normative framework that regulates institutional responses, behaviour and repeated transactions. In this law under neo-liberalism enables a classical liberal world view to operate on enlarged scales, with enlarged ramifications for inequality, dispossession, and social and environmental conflicts.

⁶ For a critique of what is entailed in this concept see (D’Souza 2006).

Taken together, the WCD and the UN-IWC appear complementary processes that seek to redefine public and private spheres in waters and rivers in the 'Third World' and between the 'First' and 'Third Worlds' along neo-liberal principles; and create a framework for institutional developments within market regulated regimes for water resources. The social actors engaged in the regime changes do not however make the connections between the two events. Disciplinary orientations, immediate sectoral interests, and minimising the importance of theory and philosophy in discourses on law and social policy, especially in the 'Third World' and in international law, prevent envisioning of the 'social whole' *that is in the making*.

The tragedy lies not in the fact that the regime changes occurred but that the 'epistemic communities' speaking for the dispossessed, the environment, for distributive justice and human values, participated willingly and contributed to a regime change that could produce results that are the very opposite of the reasons that prompted their involvement and interventions. Decontextualised analysis unconstrained by history or geography disengages the analysis of water resources from the wider processes of transformations in capitalism, forms of colonialism and ways in which structuring and restructuring of social orders occurs (D'Souza 2003). Narrow empiricist approaches to social and natural phenomena, narrow positivist approaches to law, reductionist methodologies and disciplinary closures cast a veil over social relations over water. The veil conceals the politics of water as the WCD/UN-IWC processes show. There is by now an extensive critique in social theory and philosophy on all of the approaches. Why the philosophical and theoretical critique eludes critical engagement on water issues by 'epistemic communities' speaking on behalf of the dispossessed and the environment must be left to another inquiry.

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IV. HUMAN RIGHT TO WATER

SATYA PRAKASH DASH, WATER: A HUMAN RIGHTS PERSPECTIVE

Water is the single most essential condition for the survival of mankind in the world. The very existence of mankind depends on the availability of potable water. Man is constantly in the lookout for water sources in other planets of the Universe also. The absence of living creatures in other planets is attributed due to the absence of water. Hence, water, forms the very basis for life. Water is also required for all other allied activities of mankind. Water, for this reason forms one of the vital elements of natural resources and it also is required for production of other sources of energy.

From the pages of history, it is observed that civilizations were established on the banks of the river system. Wherever there was a river system flowing, people inhabited the area and gradually they established there. Proximity to the river valley area was the first choice of any civilization, and for this reason all the major cities of the world are located near a river system. This indicates the importance of water to mankind from time immemorial. In any case, water is the first priority of mankind and this continues even today in spite of much advancement in the field of science and technology. As water is the primary requirement for sustenance of human life, and without which the right to life cannot be attained, it is hence implied to be a human right.

The United Nation's *Centre for Human Rights* defines human rights as 'those rights that are inherent in our nature and without which we cannot live as human beings'. Maurice Cranston defines a human right as 'a universal moral right, something which all men everywhere, at all times ought to have, something of which no one may be deprived without a grave affront to justice, something which is owing to every human being simply because he is human' (1973;36). Supporting the concept of human rights very strongly, Wiseberg (1996) writes, 'human rights are entitlements due to every man, woman, and child because they are human..... They are non-derogable rights: Their violation can never be justified, even by a State of national emergency..... The premise of current international law is that these rights are inherent in the human person: They are not given to people by the State, and the State cannot deprive people of their rights'. These are some of the various interpretations of human right and from this one can well imagine its deeper meanings and wider ramifications.

It is also an irony that the State even though guarantees the human rights, also plays a major role to scuttle the same human rights, either manifestly or latently. This happens prominently when the sovereignty of the State plays a determining role. Violations of human rights are often marked in the newer directions, particularly relating to its global implications. 'Moreover, the slow but steady growth in the global recognition of human rights and their relevance to an ever-increasing number of areas that were hitherto considered unrelated to human rights, should encourage a belief that the adherence to human rights standards, and the increase in their substantive implementation, will also grow. The work and commitment of the United Nations agencies to fulfill their mandates under the various human rights instruments must be lauded for giving increased visibility and legitimacy to the human rights they cover, and ultimately, to furthering their realisation ' (Salman & McInerney, 2004;3).

The issue of water as a human right aptly finds an expression in this regard, as water is required for right to life, and is an emerging subject in the contemporary human rights debate.

Recognition by the world community of the seriousness of the problems facing the water resources sector, and the attempts to address them, including the issue of the right to water, started in earnest in the 1970s, and have continued ever since (Salman & McInerney, 2005; 7). The United Nations Conference on the Human Environment in 1972 in Stockholm while identifying water as a natural resources, stated in Principle 2, 'The natural resources of the earth including the air, water, land, flora and fauna and especially representative samples of natural eco-systems must be safeguarded for the benefit of the present and future generations through careful planning or management, as appropriate'. The underlying contention for deriving a human right to water from the emerging principles of environmental law is that there exists some form of individual human right to environment, as well as a general right of the environment, where by states must acknowledge the importance of preserving nature for nature's sake (Salman & McInerney, 2005;57-58). In 1977, the United Nations Mar del Plata Water Conference was held in Argentina with a specific focus on the water resources problems. In this conference, the Mar Del Plata Action Plan was adopted which included various recommendations and conclusions on water issues. It was decided to observe the decade of 1981-90 as the *International Drinking Water Supply and Sanitation Decade*, 'during which Member states will assume a commitment to bring about a substantial improvement in the standards and levels of services in drinking water supply and sanitation by the year 1990'.

The United Nations Water Conference of 1977 is regarded as the first step in the direction to right to water. The Resolution II of the Conference on *Community Water Supply* declared for the first time that 'all peoples, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs' (UNWC, 1977;66). The Resolution emphasized that availability of safe drinking water and the disposal of waste water properly, 'are essential both for life and the full development of man, as an individual and as an integral part of society' (Salman & McInerney, 2005;8). To make this feasible, the Resolution appealed cooperation of all global players, 'so that water is attainable and is justly and equitably distributed among the people within the respective countries'. Commenting on the Resolution of the United Nations Water Conference, Salman & McInerney (2005;9) are of the opinion:

The Resolution unquestionably represented a milestone, particularly considering the time at which it was issued, a quarter of a century before the United Nations Committee on Economic, Social and Cultural Rights declared safe drinking water a human right. Referring simply to a 'right' rather than a 'human right', the Resolution clearly addressed the issues related to the right of access to safe drinking water. As such, the Mar del Plata Water Conference can be considered the starting point for the debate on the right to water, and it has indeed provided the basis for the current discussion on the issue of the human right to water.

In 1992, in two International Conferences, the availability of fresh water and its right to humanity was unanimously supported. The first was the International Conference on Water and the Environment held in Dublin in January 1992, where the *Dublin Statement on Water and Sustainable Development* was issued. Among other things, the Statement stated, 'it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price'. However, the Dublin Principles do not explain the concept

of 'affordability', nor do they suggest means through which its content and meaning could be determined (Salman & McInerney, 2005;9). The other Conference was the United Nations Conference on Environment & Development held in Rio de Janeiro in June 1992, popularly called 'Rio Summit'. In its *Programme of Action for Sustainable Development*, a separate chapter was included on freshwater resources. On the water rights issue, it contained, 'water resources have to be protected, taking into account the functioning of aquatic eco-systems and the perennality for the resources, in order to satisfy and reconcile needs for water in human activities. In developing and using water resources, priority has to be given to the satisfaction of basic needs and the safeguarding of the eco-systems'. Moreover, the chapter endorsed the Resolution of the Mar del Plata Water Conference that all peoples have the right to have access to drinking water, and called this 'the commonly agreed premise' (*ibid*;10).

In keeping pace with these sustained developments on water rights issue and water resources, in 1996 the World Water Council (WWC) and the Global Water Partnership (GWP) was established. The WWC is supposed to act as a think-tank on water resources matters, while the GWP was established as a working partnership among all entities involved in water to support countries in integrated water resources management (*ibid*). Due to the efforts of these two organizations, the World Water Forum was organized in Marrakesh (Morocco) in 1997, the Hague (Netherlands) in 2000 and in Kyoto (Japan) in 2003. The Marrakesh Declaration recommended, 'action to recognize the basic human needs to have access to clean water and sanitation'. The Hague Declaration stated, 'that access to safe and sufficient water and Sanitation are basic human needs' and the Kyoto Declaration stated, 'we will enhance poor people's access to safe drinking water and sanitation'. The fourth World Water Forum held in Mexico (2006), failed to declare water as a basic human right, thereby depriving near about one billion people who are without a source of clean water. It is worth mentioning that the *UN World Water Development Report*, released at the 4th Forum, stated that nearly 6,000 people, mostly children, die of water-related causes every day.

Provision for clean water as a human right was strengthened by the Resolution on the *Right to Development* issued by the General Assembly of the United Nations in 1999. Among other things towards facilitation of the right to development, the Resolution stated, 'the rights to food and clean water are fundamental human rights and their promotion constitutes a moral imperative both for national Governments and for the international community'. The statement, no doubt, is the strongest and most unambiguous in declaring a human right to water, and linking this right to the overall right to development (Salman & McInerney, 2005; 11-12).

These resolutions, declarations, action plans, etc, however, do not have a legal status and hence are not binding but nonetheless are sufficient to influence policy decisions at later stage. In this direction, the treaty of the United Nations *Convention on the Law of the Non-Navigational uses of International Watercourses*, adopted by the United Nations General Assembly on May 21, 1997, does have a legal meaning and recognizes the issue of water as a human need. Article 10 (2) of the treaty states,

In determining 'vital human needs', special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation.

Salman & McInerney (2005; 14) are of the view that, 'The United Nations Watercourses Convention does not directly address the issue of the human right to water. Rather, it confined its concerns to the issue of 'vital human needs', the meaning and practical

implications of which are still difficult to articulate'. Whatever may be the implications, it is certain that water is a 'vital human need' and that to sustain life, from which the basic human right of right to life follows, water is essential.

Another major international instrument towards the human right to water is the United Nations Millennium Development Goals (MDGs) issued in September 2000; 147 heads of States have signed the eight goals that are to be achieved by the year 2015. Among the eight MDGs, six are directly or indirectly related to the water issue. These six goals are (1) eradication of extreme poverty and hunger, (2) reducing child mortality, (3) improving material health, (4) combating HIV/AIDS, malaria and other diseases, (5) ensuring environmental sustainability and (6) developing global partnership for development. The achievement of all these goals, require safe drinking water for mankind. Those goals include reducing by half the proportion of people without sustainable access to safe drinking water (*ibid*; 14). As sanitation was somehow absent in these goals, the United Nations Summit on Sustainable Development in Johannesburg in September 2002 included the goal with regard to basic sanitation.

The Committee on Economic, Social and Cultural Rights, in November, 2002, in its General Comment No.15 also discussed on the issue of water as a human right. Among other things, the General Comment No.15, stated:

The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related diseases and to provide for consumption, cooking, personal and domestic hygienic requirements.

The Committee, in the General Comment, stressed upon three essential factors with regard to the issue of water. These are availability of water, quality of water and accessibility of water. Accessibility includes physical accessibility, economic accessibility, information accessibility and non-discrimination. The Committee also relied upon various other international instruments of human rights so as to derive and infer rights relating to water. Article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), states, 'The right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions'. Similarly, Article 12 of the ICESCR states, 'The State parties to the present covenant recognize the right of everyone to the enjoyment of the highest attainable standards of physical and mental health'. Again, Article 1 (2) of ICESCR states, 'In no case may a people be deprived of its own means of subsistence'. It also tied the right to water to the other rights enshrined in the International Bill of Human Rights, foremost amongst them the right to life and human dignity (Salman & McInerney, 2005; 57).

In addition to what has been written above, 'The Committee also based a significant part of its argument on the right to water on the existence of other international legal instruments that recognize the right to water' (*ibid*;60). The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), in Article 14 (2) contained, 'enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply'. The Convention on the Rights of the Child, in Article 24 (2) guarantees that States parties shall combat disease and malnutrition through the provision of adequate nutritious foods and clean drinking water. In a similar manner, the Committee addressed other conventions to derive the right to water. As such, in line with the ICESCR, the General Comment defines the

States parties' obligations under the Comment as 'constant and continuing' - meaning that the States parties have a constant and continuing duty to move expeditiously and effectively toward the full realisation of the right to water (*ibid*; 65-66).

The Constitution of India in Article 21 guarantees, 'Protection of life and personal liberty' as a fundamental right. This right does not differentiate between a citizen and non-citizen and is guaranteed to every person within its jurisdiction. This particular right, by its implied meaning gives rise to a number of supplementary and ancillary rights and 'has received the widest possible interpretation' (Bakshi, 2001; 47). The Supreme Court of India in *B.L. Wadhera vrs. Union of India* has opined that 'right to life under Article 21 includes the right to enjoyment of pollution-free water'. It is pertinent to mention that the Supreme Court not only regards 'water' as fundamental right but that it also should be 'pollution-free', indicating that a person maintains a healthy life and dignified existence. The Supreme Court in *Francis Coralie (AIR 1981 SC746 at 753: (1981) I SCC 608)*, was of the opinion that, 'we think that the right to life includes the right to live with human dignity and all that goes with it'. The Supreme Court in *Pathumma vrs. State of Kerala (AIR 1978 SC 771: (1978) 2 SCC1)* stated, 'The judicial approach should be dynamic rather than static, pragmatic and not pedantic, and elastic rather than rigid'. The Supreme Court has on several times given stress on the implicative and applicative aspect of a particular fundamental right without restraining it to its narrow meaning. 'The Court has asserted that in order to treat a right as fundamental right, it is not necessary that it should be expressly stated in the Constitution as a fundamental right. Political, social and economic changes occurring in the country may entail the recognition of new rights and the law in its eternal youth grows to meet social demands'. (Godbole, 2004; 1106).

Considering the significance of water, the Constitution of India in Article 262 enumerates provisions with regard to disputes relating to waters. The said article states, 'Adjudication of disputes relating to waters of inter-State rivers or river valleys: (1) Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State river or river valley; (2) Notwithstanding anything in this Constitution, Parliament may by law provide that neither the Supreme Court nor any other Court shall exercise jurisdiction in respect of any such dispute or complaint as in referred to in clause(1)'. This provision of the Constitution of India indicates the utmost priority given to the disputes relating to water by the framers of the Constitution. By virtue of this article, the Parliament enacted the *Inter State Water Disputes Act, 1956*. Section 11 of the Act excludes the jurisdiction of the Supreme Court in respect of a water dispute referred to the Tribunal. But the Supreme Court can direct the Central Government to fulfill its statutory obligation under Section 4 of the Act, which is mandatory.

The National Water Policy 2002 of the Government of India, in the very first line states, 'Water is a prime natural resource, a basic human need and a precious national asset'. Under the heading, 'Drinking Water', it states, 'Adequate safe drinking water facilities should be provided to the entire population both in urban and in rural areas..... Drinking water needs of human beings and animals should be the first charge on any available water'. In conclusion, it is stated, 'In view of the vital importance of water for human and animal life, for maintaining ecological balance and for economic and developmental activities of all kinds, and considering its increasing scarcity, the planning and management of this resource and its optimal, economical and equitable use has become a matter of the utmost urgency'. From this it is inferred that the Government of India identifies water both as a natural resource and a national asset and also a basic human need. It is aware of the fact that provision for safe drinking water is a must both for human and animal life and also to

maintain the ecological balance and for 'economic and developmental activities'. It is certainly interesting to observe that the Government treats water as a natural resource and national asset and hence integrates it for economic activities. This becomes more astounding as the Government also considers the 'increasing scarcity' of water. In this perspective, water is more regarded as a 'commodity' which is to be traded for economic gains. The National policy nowhere regards water to be a human right but only a human need? The term 'need' implies some sense of charity, and represents the recipients as passive beneficiaries, whereas 'right' conveys a sense of legal entitlement, which should, in turn, result in a corresponding duty (Salman & McInerney, 2005;16). Again, in Para 1.3 of the policy, it is stated, 'water is part of a larger ecological system. Realising the importance and scarcity attached to the fresh water, it has to be treated as an essential environment for sustaining all life times'. Hence, the impending threat of 'scarcity' of water is an admitted fact and this has to be dealt with all seriousness *vis-à-vis* the human rights approach to water as observed by the Supreme Court of India in their various interpretations of the implicative aspects of the Fundamental Rights.

The State Government of Orissa is yet to have a new State Water Policy, even though the National Water Policy 2002 stated, 'State Water Policy backed with an operational action plan shall be formulated in a time bound manner say in two years'. The State Government has drafted a State Water Policy in the year 2003, but the same has not yet been adopted and implemented. It is said that as water has varied users, the different Government Departments like Agriculture Department, Water Resources Department, Urban Development Department, Rural Development Department, etc, are yet to reach at a unanimity decision to accept the draft State Water Policy. The State Government has a State Water Policy 1994 that stated, 'The Department of Water Resources apart from being the sole owner of the water resources is also a principal user in the agriculture sector'. However, the Draft State Water Policy 2003 has not mentioned that the Government is the owner of water resources, but has mentioned that water is a precious asset of the State. The very first line of the Draft policy 2003 states, 'Water is an essential resources, a basic need for the survival of the mankind and a precious asset of the State'. The State Water Policy 1994 stated that the beneficiaries would pay the charges for maintenance and management of water resources, while the Draft Policy 2003 states in addition to this the beneficiaries will also have to pay for infrastructural development. In this perspective, it may be mentioned that 80% of the water is used in agriculture sector and as in the Draft Policy, State Government is no more the owner of water resources, the burden will fall on the poor peasants directly as they are the users. The poor peasants do not have any opportunity to devise the infrastructure and the cost involved as it is done at the Government level, but they have to pay accordingly of the entire work for using water resources.

Another significant factor which needs to be discussed is about privatization and more involvement of private sector participation. Privatisation means exploitation of the poor and deriving profits and their cost. The private party which will make investment would certainly not do for charity but with profit-motive. The State may not make the investment for the water projects and will be able to save finance, but in the long run it will be detrimental to the public. Both the National Water Policy 2002, at para 13, and the Draft State Water Policy 2003, at para 16, have stated about Private Sector participation as follows:

Private sector participation should be encouraged in planning, development and management of water resources projects for diverse uses, wherever, feasible. Private sector participation may help in introducing innovative ideas, generating financial resources and introducing corporate management and improving service efficiency and accountability to users. Depending upon the

specific situations, various combinations of private sector participation, in building, owning, operating, leasing and transferring of water resources facilities, may be considered.

The entry of private sector in the water privatization has gained momentum all over the world as the multi-national corporations are aware that the water business has huge profit potency. As per an estimate of the World Bank, the water privatization business in the world has the potential of 800 billion dollars and this has made a tremendous impact on the MNCs. There are a number of such MNCs like Vivendi, Suez Company, Enron, R.W.E. Group, Thames Water, United Utilities, etc., which are in the water business and are earning a total of annually 10 billion dollars as profit. If these become a reality in India, one can well imagine what will be the condition of the poor Indian peasants and farmers. Due to scarcity of financial resources, many peasants are committing suicide. They do not even get a square meal a day and if water privatization is done, then they will not be in a position to purchase water for their agricultural requirement and cattle, more particularly drinking water. Privatisation is stressed upon due to the reliance on globalization and liberalization. 'Calling globalization as the central challenge to be faced today, world leaders attending the United Nations Millennium Summit on 8 September 2000, state that while globalization offers great opportunities, at present its benefits are unevenly distributed. With globalization and emergence of powerful multi-national corporations, the role of governments is diminishing and they are relinquishing their responsibility of serving the needs of citizens who are unable to protect themselves' (Sen, 2006). The daily Hindu, in an editorial dated 29th March 2006, stated, 'In the last few years, it has also become clear that privatized water supply attempted by some countries, notably Latin America, is no panacea. The private sector can never lose sight of financial returns on investment and has, not surprisingly, met with more opposition than commendation. If governments have failed, the hefty price for their poor performance is invariably paid by those mired in poverty'.

The State Water Policy of Orissa, 1994, in its Preamble mentions about the United Nations Water Conference at Mar del Plata in 1977. It states, 'The Conference laid down stress on sustainable development of all sectors, which conserves land, water, plant and animal genetic resources, and is environmentally non-degrading, technically appropriate, economically viable and socially acceptable'. Among the stated specific objectives of the State Water Policy, 1994, two objectives are worth mentioning in the context of water and human rights. The third objective states, 'Judicious allocation of water resources to different sectors with drinking water occupying top priority in order to satisfy the basic need of the people'. This indicates that even though drinking-water is to be given top priority simultaneously there will also be judicious allocation to different other sectors. It might also mean that in case there is shortage of water resources, and which is a recurrent feature in Orissa still now, supply of drinking water may be hampered. This again is strengthened by the fifth objective, which states, 'Provision of adequate water for drinking and industrial use'. From this, it may be inferred that water required both for drinking and industrial use is treated at par which will definitely have dangerous consequences. This objective when interpreted with the previous objective clearly reflects the status of drinking water to other uses and *vis-à-vis* the human rights approach.

With regard to the environment, the State Policy states that the preservation and enhancement of the quality of environment as well as maintenance of ecological balance should be a prime consideration. The policy admits that lack of environmental consideration may lead to severe adverse impacts resulting in ecological damage and degradation and hence makes provision for environmental management plans as an integral part of the master plan of the river basin

planning of the State. It also stated to create an Environmental Cell with a view to integrating various environmental aspects with river basin planning. This cell would also play a coordinating role between various Government bodies connected with environmental issues.

Water along with land and forest constitute the three basic needs of humankind viz. food, clothing and shelter. Even in the twenty-first century, there are some primitive tribe communities who do not use clothes to cover their body and instead use leaves and barks of tree for this purpose. Their survival solely depends on land, forests and water and by any means they will not spare it. They do not exploit these natural resources and neither do they use it for any profit. On the other hand they try to preserve it in a natural way so as to maintain the ecological balance and in turn depend on it for their very survival. They will also not tolerate any outside authority/force interfering with their land, forest and water. They do not have any Governmental records to show ownership over the land, forest and water they use but their claim over it have continued for generations. Tensions are bound to erupt when the Governments claim their land, forest and water. The tribals have many times agitated against this and have demonstrated by various means before the Governmental authorities. Due to the economic liberalization and privatization, the Governments are encouraged to allow private participation in the name of socio-economic development. Whether socio-economic development really takes place or not is a debatable question, but it can be said with certainty that the private investors definitely benefit at the cost of the poor and innocent. During the last two years, the Government of Orissa have signed more than forty Memorandum-of-Understandings (MoU) with private business houses in the mining and steel sector, including the POSCO MoU which is said to be highest foreign-direct investment in India till now. All these companies would require land, forest and water to run their establishment and in the process would cause irreparable damage to the local and indigenous people. The indigenous peoples' claim over their land, forest and water will come under grave threat and this is also regarded as an onslaught to their livelihood and survival. The State of Orissa has witnessed a number of violent protests by the indigenous and tribal people and many innocent lives have been lost, the most recent being the Kalinganagar incident in Jajpur district, in January 2006, where thirteen tribals were killed by the police force. These tribals were protesting against the construction of the boundary wall to the campus of the TATA company. The agitation and protest was over TATA company acquiring land without initiating the resettlement and rehabilitation schemes to the displaced families.

Resettlement and rehabilitation is another serious problem in the context of large water reservoirs and dams. The displaced persons are not provided with proper rehabilitation and resettlement programmes even though decades have passed. An example to this is the Hirakud Dam Project, Rengali Dam Project and Indravati River Dam Project etc. in Orissa. The displaced persons have lost their land and their natural environment, and supplementing to this, they are left in the lurch with a meager compensation. Even if, they are relocated in the resettlement colonies and clusters, basic amenities and public services are not provided on priority basis. Displacement followed by resettlement and rehabilitation, being a major problem in Orissa, the State Government in May 2006 formulated and implemented a uniform Resettlement and Rehabilitation Policy for the project affected families of different projects, including water projects.

Drinking water facilities are not optimum in the State of Orissa, particularly in the Western and Southern Orissa. Many tube-wells are lying in defunct condition and many also dry up in the summer season. Women in rural area have to walk several kilometers to fetch drinking water for their consumption. This becomes a tedious work for the women and they also loose precious time which could have been utilized productively. In situations like this, the case of

the *dalit* women worsens much higher as they are not entitled to fetch water where higher castes collect it. Another interesting thing observed in the villages of Orissa is that separate tube-wells are specified for *dalits* and non-*dalits*, and *dalits* are not allowed to touch the non-*dalit* tube-wells. This also is observed in case of river-banks, ponds and other sources of water. Artificial barriers and discriminations are imposed even though water is one of the basic elements required for survival of all life. Ground water pollution is another major constraint in Orissa. The pollutant elements found here are fluoride, sulphide, iron, manganese and salinity. Even the ground-water of the capital city, Bhubaneswar, contains these pollutants. There is every possibility of increase in levels of pollution in the coming years as a number of companies are planning to set-up their industries in Orissa, particularly in the Mining and Steel sector. These industries will also require gallons of water for production and other allied purposes, and thereby will increase the chances of water scarcity in the summer season. It is apt to mention here that Orissa is a drought-prone State and its agriculture is still dependent on rains.

In March 2006, the Orissa State Pollution Control Board in a report stated that in the capital city of Bhubaneswar, 640 lakh litres of water is supplied to the people by the Bhubaneswar Municipal Corporation without treatment. The city of Bhubaneswar requires a total of 218.72 million litres of treated water, out of which 212.32 million litres of water are disinfected and the rest 640 lakh litres are supplied without treatment. Due to this, there is every possibility of spread of hepatitis and other skin related diseases among the people. The Bhubaneswar Municipal Corporation, however, shifts the responsibility to the Public Health Department, as water supply is the responsibility of the later.

As per a news-report published in April/May 2002, out of the total 2,02,364 tube-wells, the State Government admitted that 8,155 tube-wells are totally defunct in the entire State and cannot be repaired. The State Government does not have the district break-up of the defunct tube-wells. However, private sources revealed that a total of 85,000 tube-wells are totally defunct. The district of Balasore tops the list and the other affected districts were Bolangir, Kalahandi, Phulbani, Sundargarh, Khurda, Ganjam, Nayagarh, Angul, Dhenkanal, Keonjhar and Mayurbhanj. It is pertinent to mention that the Chief Minister of Orissa had directed to repair the defunct tube-wells within 48 hours of complaint, but it is not being implemented. In Bhubaneswar city alone, there were 458 defunct tube-wells which had not been repaired inspite of the Chief Minister's directive.

The ground-water utilization, which is 14%, is low in Orissa considering its vast water resources of both ground and surface water. According to the Central Ground Water Board (CGWB), the parameters utilization of 65%-85% is called 'grey' zone, while 85%-100% is a 'dark' zone and above 100% is 'over-exploitation'. Only two places in Orissa, i.e. Bhogarai and Baliapal in Balasore district fall in the grey zone. The then Regional Director of CGWB, B. N. Jha, stated, 'In most places ground-water table is mistaken for the water level where tube-wells fail to pump water. A tube-well can fail due to a host of technical reasons such as, fracture in the rock, water aquifers and a permanently sustaining source. But if a tube-well, which is sunk 30 metres below the ground level fails in an area then it is confused for the fact that water table has gone down by 30 metres which is not true' (*The New Indian Express*, Bhubaneswar, dtd. 24th April 2002).

In the summer season, due to the rise in temperature and consequent drying up, drinking water possesses a serious threat. The town of Titlagarh in Bolangir district (Western Orissa) is an apt example to this. The temperature in the summer season touches 49 degree Celsius and hence is one of the hottest places in India. And it is in summer, that water becomes a

precious commodity for the inhabitants. There are no perennial water sources close to the town and the ponds run dry long before the on set of summer. The inhabitants are largely dependant on tube-wells for their water supply. But with the ground water level going down alarmingly in the last few years, the tube-wells have also become useless. In the years 2000 and 2001, the situation became so bad that water had to be supplied by train and road tankers to the inhabitants. In order to mitigate the drinking water problem, the Chief Minister of Orissa laid a foundation for a multi-crore (Rs.13.60 crores) pipe-water supply project at Titalagarh in Bolangir district in the year 2001. If completed, the project would ensure supply of 125 litres of water per day per head in place of the prevailing 18 litres. In a related news-report, published in *The Times of India* dtd. 6th May 2002, it was reported, 'According to a resident Ghanshyam Sahu, this is the third time a Chief Minister has laid the foundation stone for a pipe-water supply project in the town in the last 11 years. Prior to him, both the earlier Chief Ministers viz: J. B. Patnaik (1995-2000) and late Biju Patnaik (1990-95) had laid similar foundation stones during their respective regimes, but nothing happened to mitigate the water crisis. Interestingly, all the foundation stone laying ceremony happened when the legislator of Titalagarh was the same person'. The project scheduled to be completed in March 2003, however finally was completed in April 2005.

The State Government had also launched the *Operation Trishna* in 2001 to solve the drinking water problem. The objective of the programme was to facilitate provision of more drinking water by renovating and restoring the defunct tube-wells. *The New Indian Express* (11th May 2002) reported, 'But the programme is still to achieve any substantial progress. Several other projects were launched to provide water supply to the scarcity area but are stranded mid-way due to non-release of funds. An example to this is the Titlagarh pipe-water project that has come to a stand-still due to non-availability of funds'.

The callous and apathetic attitude on the part of the Government was well reflected in the Comptroller & Auditor General's (CAG) Report of 2005. The report had criticized the State Government's half-hearted manner in which the *Accelerated Urban Water Supply Programme* (AUWSP) was implemented. The Central Government scheme was launched in the State in selected 24 towns for supply of safe drinking water. Though Rs.76.36 crores was spent from 1999 to 2004, only two water supply schemes were completed. CAG maintained that the water supply schemes would not be completed in 22 towns due to improper planning, finalization of water sources without pre-construction survey, delay in land acquisition, diversion of funds and purchase of materials in excess of requirement. Due to non-completion of these schemes, people were compelled to use polluted water and thereby were affected with water-borne diseases. *The New Indian Express*, dated 18th April 2005, reported, 'More than 4 lakh suffered from severe diarrhea and 29,000 from hepatitis, while 2169 succumbed to the two diseases'. It again reported, 'A case in point is the water supply scheme of Umerkote town in Nabarangpur district. River Vaskei was identified as the water source but was subsequently found to be non-feasible. Material worth Rs.1.71 crores purchased for the scheme remains unutilized'. In Malkangiri town, it was decided that supply of water would be done through an intake well from the Satiguda reservoir, but the intake well was found unsuitable. Scheme for Panposh in Sundargarh district on which Rs.1.01 crores was spent, remained incomplete due to delay in acquisition of land. Water supply schemes in Kamakshyanagar, Junagarh and Balimela towns in Dhenkanal, Kalahandi and Malkangiri districts respectively were started without any pre-construction survey. Water supply schemes in Nayagarh, Boudh, Deogarh, Barpalli, Chandbali, Baligaon, Khandapada, and Kantabanji towns remained unfinished because of improper planning.

Water is the most precious gift of nature to humankind and hence should be used in a more responsive manner. Innovative methods are being devised to save and protect water as it is being increasingly felt that the future generations may face a water-crisis. Of all the natural resources, water is the most priceless and valuable and its increasing relevance is well understood by all the international, national, regional and local players. In this context, one is tempted to recollect what the owner of Parle Drinks, Mr. Ramesh Chawan had said when he was questioned about the threat perception regarding the entry of MNCs like Coco-Cola and Pepsi. He simply answered, 'My biggest competitor is a glass of water'. Hence, there is no substitute to water and it is the sole factor responsible for supporting all life systems. All means should be adopted to ensure availability of safe water.

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1. Introduction*

This paper examines the justiciability of social rights, looking particularly at the Right to Water as part of the all encompassing Right to Life. In India, the Right to water has been protected as a fundamental human right by the Indian Supreme Court as part of the Right to Life guaranteed under Article 21 of the Indian constitution. The right to life has been expanded significantly over the last three decades to include the right to health and the right to a clean environment which can include the right to clean drinking water.

In India, there have also been significant developments in protecting the Right to Food through judicial intervention. The Right to Food has been specifically enforced under the Right to Life guaranteed to all citizens under Article 21 of the Constitution by the Supreme Court of India¹. By protecting the right to food, the Indian Supreme Court not only gave a declaration as to its justiciability, but through its orders also directed the state governments to positively provide mid-day meals to children in state schools and to implement food schemes. Can this protection of the right to food be extended to guarantee access to water under the protection of the Right to Life? I argue that it can be extended. If protection of rights mean not only the negative protection of violation of rights, but also positive protection, then I argue that the right to water can be extended not only to mean that people should not be denied access to water but also that in areas where no access to drinking water is provided by the State, the constitutional Right to Life guarantee would impose a duty on the State to positively provide water.

In framing such an argument, my paper also borrows from South African constitutional jurisprudence, since the South African constitution as the South African Constitution specifically guarantees to citizens the right to adequate food and water in its Bill of Rights. To what extent can this right be enforceable, and is it dependant on state resources? Do water providing agencies have any obligations to citizens before disconnection of water supply? And does the state have a duty to provide basic water supply even if it does not have sufficient resources? These are some of the questions that my paper attempts to answer.

2. The Right to Water – Flowing from the Right to Life

A detailed review of international treaties supports the stand that the drafters implicitly considered water to be a fundamental resource. Several of the explicit rights protected by international rights conventions and agreements, specifically those guaranteeing the rights to food, human health and development, cannot be attained or guaranteed without also guaranteeing access to basic clean water. In recent years, more explicit articulations of this view supporting the right to water have been made such as resolution of the UNO passed during the United Nations Water Conference in 1977 as under:

‘All people, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantum and of a quality equal to their basic needs.’

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¹ *Peoples Union for Civil Liberties (PUCL) v. Union of India & Ors.* W.P. (Civil) No. 196 / 2001.

In India, the constitutional right to access to clean drinking water can be drawn from the right to food, the right to clean environment and the right to health, all of which have been protected under the broad rubric of the Right to Life guaranteed under Article 21 of the constitution. In addition to article 21, Article 39 (b) of the directive principles of state policy (DPSP), which the Constitution declares to be non-justiciable, recognizes the principle of equal access to the material resources of the community. Article 39 (b) mandates that ‘the State shall, in particular, direct its policy towards securing that the ownership and control of the material resources of the community are so distributed as best to subserve the common good.’

3. Protecting the Negative Right to have Clean Drinking Water – As Part of the Right to a Clean Environment:

In India till date the right to clean drinking water has been protected by the courts only as a negative right – i.e. the right not to have water sources polluted. Such protection has stemmed from the articulation of a fundamental right to a clean and healthy environment as part of the right to life guaranteed under Article 21 of the constitution by the Supreme Court.

The concept of right to ‘healthy environment’ has been developed as part of the right to life under Article 21 of our Constitution. This concept was first articulated in the case of *Bandhua Mukti Morcha v. Union of India*² and then continued and expanded. The Supreme Court protected the right to clean water as part of the right to a healthy environment in a spate of water pollution cases coming before it from the early nineties onwards.

An important ruling of the Indian Supreme Court was the case of *A.P. Pollution Control Board II v. Prof. M.V. Nayudu*.³ In this case, the AP government had granted an exemption to a polluting industry and allowed it to be set up near two main reservoirs in Andhra Pradesh – the Himayat Sagar lake and the Osman Sagar lake, in violation of the Environment Protection Act 1986. The Supreme Court struck down such exemption and held that the ‘*Environment Protection Act and The Water (Prevention and Control of Pollution) Act 1974 did not enable to the State to grant exemption to a particular industry within the area prohibited for location of polluting industries. Exercise of such a power in favour of a particular industry must be treated as arbitrary and contrary to public interest and in violation of the right to clean water under article 21 of the constitution on India...The Government could not pass such orders of exemption having dangerous potential, unmindful of the fate of lakhs of citizens of the twin cities to whom drinking water is supplied from these lakes. Such an order of exemption carelessly passed, ignoring the ‘precautionary principle’ could be catastrophic.*’⁴ The court referred to India’s participation in the UNO water conference and held that the right to access to drinking water is fundamental to life and there is a duty on the State under Article 21 to provide clean drinking water to its citizens. The Supreme Court also referred to the *Narmada Bachao Andolan v. Union of India*⁵ judgment where Kirpal, J. observed that ‘*Water is the basic need for the survival of human beings and is part of the right to life and human rights as enshrined in Article 21 of the Constitution of*

² AIR 1984 SC 802

³ (2001) 2 SCC 62

⁴ *Ibid*

⁵ (2000) 10 SCC 664

India....and The right to healthy environment and to sustainable development are fundamental human rights implicit in the right to 'life'.⁶

In another recent judgment of *Vellore Citizens' Welfare Forum v. Union of India*,⁷ gave relief to the victims of water pollution caused by tanneries. In this case, a writ petition was filed against the large-scale pollution caused by tanneries and other industries in the state of Tamil Nadu. The petitioners alleged that untreated effluent was being discharged into agricultural fields, waterways and open land, which ultimately reached the Palar river which was the main source of water supply to the residents of the area. The effluents had spoiled the physico-chemical properties of the soil and had contaminated the groundwater by percolation. After carefully examining the facts of the case, the Supreme Court, while recognizing the common law right of the people to a clean and healthy environment, awarded compensation to the victims of pollution on the basis of the 'precautionary principle' and the 'polluter pays principle'. The 'precautionary principle' when applied by the courts to Indian condition means: (i) that environmental measures taken by the state and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation; (ii) that where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation; and (iii) that the 'onus of proof' is on the actor or the developer/industrialist to show that his action is environmentally benign. By regarding the two aforementioned principles as part of the environmental law of the country, the Supreme Court has to some extent conceptualized the common law remedial measures of awarding compensation to the victims of a tortious action in water pollution cases.⁸ Importantly, the Supreme Court held that *'The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the inalienable common law right of clean environment.'*⁹

The Supreme Court has, in the context of water pollution, mandated the cleaning up of water sources including rivers,¹⁰ the coastline¹¹ and even tanks and wells.¹² The concern over pollution of ground water by unregulated discharge of effluents has led the court to issue mandatory directions for clean up by the polluter and restitution of the soil and ground water.¹³ The court has also applied the 'precautionary principle' to prevent the potential pollution of drinking water sources consequent upon the setting up industries in their

⁶ *Ibid* at Paragraph 248

⁷ (1996) 5 SCC 647

⁸ M Batra, 'Water Rights' available at <http://www.india-seminar.com/2000/492/492%20m.%20batra.htm>

⁹ *Vellore Citizens Welfare Forum* (n 7) at pg. 661.

¹⁰ For orders relating to the pollution on the river Ganga, see *M.C. Mehta v. Union of India* AIR 1988 SC 1037, 1115 and (1997) 2 SCC 411. For an important decision regarding closure of a hotel resort which was polluting the Beas river in Himachal Pradesh, see *M.C. Mehta v. Kamal Nath* (1997) 1 SCC 388.

¹¹ *S. Jagannath v. Union of India* (1997) 2 SCC 87.

¹² In *Hinch Lal Tiwari v. Kamala Devi* (2001) 6 SCC 496, the court said (at 501): 'It is important to notice that the material resources of the community like forests, tanks, ponds, hillock, mountain etc. are nature's bounty. They need to be protected for a proper and healthy environment which enables people to enjoy a quality of life which is the essence of the guaranteed right under article 21 of the Constitution of India.'

¹³ *In Re: Bhavani River-Shakti Sugars Ltd.* (1998) 6 SCC 335. In *Indian Council for Enviro-Legal Action v. Union of India* (1995) 3 SCC 77, a compensation package was worked out for farmers affected by their only source of irrigation, a river in Andhra Pradesh, was polluted by discharge of untreated effluents by industries alongside its banks.

vicinity.¹⁴ The court has recognized that water is a community source which is to be held by the State in public trust in recognition of its duty to respect the principle of inter-generational equity. In *M.C. Mehta v. Kamal Nath*¹⁵ the court declared that ‘our legal system – based on English common law – includes the public trust doctrine as part of its jurisprudence. The State is the trustee of all natural resources which are by nature meant for public use and enjoyment. Public at large is the beneficiary of the seashore, running waters, air, forests and ecologically fragile lands. The State as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership’.¹⁶

Thus, as can be seen from the discussion of the recent cases above, the fundamental right to water has been articulated by the Indian courts within the rubric of the right of citizens to have ‘clean’ drinking water as part of the right to clean environment guaranteed under the right to life under article 21. By doing so, the court has been protecting only the negative right to not have water sources polluted. In *AP Pollution Control Board*, the Supreme Court did mention that all citizens have the fundamental right to have access to clean drinking water, but did not take that issue forward in order to explore whether this includes the positive obligation on the State to provide clean drinking water to all citizens. Thus we can see that the right to clean drinking water, although not articulated as a separate right, has been considered as an inseparable part of the right to a clean environment and the right to life.

4. Guaranteeing a Positive Right to Water as an Integral Part of the Right to Food, Health and Life – An Analogy and Extension of the Right to Food Argument

The Indian Supreme Court has reiterated in several of its decisions that the Right to Life guaranteed in Article 21 of the constitution in its true meaning includes the basic right to **food, clothing and shelter**.¹⁷ The justiciability of the specific Right to Food as an integral right under Art 21 was however articulated and enforced only in 2001.¹⁸ In 2001, there was a massive drought in several states in India especially Orissa, Rajasthan and Madhya Pradesh. Due to the drought, which had been going on for months and the extreme poverty and complete lack of access to food grains, people were starving in large numbers. While the poor were starving in the drought hit villages, the central government had excess food grains in its storehouses, which were not being disbursed and were rotting! Slowly, the agitation over access to food became a full-fledged Right to Food campaign in the country. As part of this campaign, a public interest litigation was filed by the People’s Union for Civil Liberties (PUCL) in April 2001 in the Supreme Court for enforcement of the Right to Food of the

¹⁴ See *A.P. Pollution Control Board v. Prof. M.V. Nayudu* (1999) 2 SCC 718 and *A.P. Pollution Control Board (II) v. Prof. M.V. Nayudu* (2001) 2 SCC 62.

¹⁵ *M.C. Mehta* (n 10)

¹⁶ S. Muralidhar, ‘The Right to Water: An Overview of the Indian Legal Regime’ in Eibe Reidel & Peter Rothen eds., *The Human Right to Water* (Berlin: Berliner Wissenschafts-Verlag, 2006), p. 65-81. Available at <http://www.ielrc.org/content/a0604.pdf>

¹⁷ *Francis Coralie Mullin v. Union Territory of Delhi.*, 1981(1) SCC 608; *Chameli Singh v. State of UP.*, 1996 (2) SCC 549.

¹⁸ *Peoples Union for Civil Liberties (n.1)*

thousands of families that were starving in the drought struck States of Orissa, Rajasthan, Chhatisgarh, Gujarat and Maharashtra, and where several had died due to starvation.¹⁹

In its several hearings, the Court directed all state governments to ensure that all Public Distribution Shops are kept open with regular supplies and stated that it is the prime responsibility of the government to prevent hunger and starvation by providing people access to food. On 23 July, 2001, recognising the right to food, the court said:

*'In our opinion, what is of utmost importance is to see that food is provided to the aged, infirm, disabled, destitute women, destitute men who are in danger of starvation, pregnant and lactating women and destitute children, especially in cases where they or members of their family do not have sufficient funds to provide food for them. In case of famine, there may be shortage of food, but here the situation is that amongst plenty there is scarcity. Plenty of food is available, but distribution of the same amongst the very poor and the destitute is scarce and non-existent leading to mal-nourishment, starvation and other related problems.'*²⁰

The Supreme Court, thus recognised a distinct positive Right to Food under the constitution under Article 21 and also sought to broaden the scope of the right to not only encompass the right to be free from starvation, but to also include distribution and access to food and the right to be free from mal-nutrition, especially of women, children and the aged. The Court, in an unprecedented interim order on 28 November 2001²¹, directed all the state governments and the Union of India to effectively enforce eight different centrally sponsored food schemes to the poor²². These food security Schemes were declared as entitlements (rights) of the poor, and the Court also laid down very specific time limits for the implementation of these schemes with the responsibility on the states to submit compliance affidavits to the court. These included the Antyodaya Anna Yojna, the National Old-Age Pension Scheme, the Integrated Child Development Services (ICDS) programme, the National Mid-day Meals Programme (NMMP), the Annapurna scheme and several employment schemes providing food for work. Of the eight schemes, the most significant was the Mid-day Meal Scheme and the direction of the Court to all state governments to provide cooked mid-day meals in all government schools by January 2002.

In light of the right to food judgments passed by the Supreme Court, I would argue that the fundamental right to food can be extended to include the fundamental right to access to water. While the right to water has been accepted by the Supreme Court to be a fundamental right under article 21, it has only been articulated as the right to have clean water as part of the guarantee of the right to environment. Such an articulation does not address issues such as having access to water – what if a particular community, village or an urban slum has no water supply at all. Can it be claimed as a positive justiciable right from the state? I argue,

19 Ibid

20 Hearing dates 23 July 2001 (unreported) *People's Union for Civil Liberties* (Above n 1)

21 Interim Order dated 28 November 2001 in *People's Union for Civil Liberties* (Above n 1) Unreported order, < <http://www.righttofoodindia.org/orders/nov28.html>>

22 These schemes included food distribution schemes and schemes guaranteeing income support in order to gain access to food such as the National Old Age Pension Scheme, the National Maternity Benefit Scheme and the National Family Benefit Scheme.

that by posing the right to water as an extension of the fundamental right to food and health under Article 21, one can indeed make such a claim.

Meaning of the Right to Water:

So what would the right to water specifically mean? Would it mean providing water to all those who need it, or would it mean something more? Here I would like to borrow some jurisprudence from the South African courts on this issue. Jaap de Visser quite rightly holds that the right of access to water can be seen to place two interrelated but distinct obligations on the State:

1. It must ensure that all people have physical access to water. This means that the facilities that give access to water must be within safe physical reach for all sections of the population, especially for vulnerable and marginalised groups.
2. It must ensure that all people have economic access to water. This implies that the cost of accessing water should be pegged at a level that would ensure that all people are able to gain access to water without having to forgo access to other basic needs.²³
3. Where water is provided, i.e. the right is guaranteed, they should be protected against undue infringement.

Guarantee to the Right to Water under the South African Constitution:

In contrast to the Indian Constitution, which does not specify a clear right to water but protects a broad right to life under Article 21, the South African Constitution specifically guarantees the right to food and water to all its citizens.

The South African Constitution in Article 27 of the Bill of Rights holds,

‘27. (1) Everyone has the right to have access to -

a. ...

b. sufficient food and water; and

c. ...

(2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.’

While protecting these rights, the South African constitution refers to availability of resources which would be a condition required for implementing these rights. The South African Constitution places a duty on all three spheres of government to realise the right of access to water by acting in partnership with one another. While the national government is required to

²³ J Visser, E Cottle & J Mettler ‘The Free Basic Water Supply Policy: How Effective is it in Realising the Right?’ *ESR Review* Vol 3, No. 1, July 2002 Available at

<http://www.communitylawcentre.org.za/Projects/Socio-Economic-Rights/esr-review/esr-previous-editions/esr-review-vol-3-no-1-july-2002.pdf/>

establish a national framework to ensure the realisation of this right, local government must play the critical role of ensuring delivery of water to all.

The Right of Access to Sufficient Water:

In this regard, I would like to discuss two interesting cases from South Africa:

In *Manqele v Durban Transitional Metropolitan Council*²⁴ the applicant, an unemployed woman who occupied premises with seven children, sought a declaratory order that the discontinuation of water services to her premises was unlawful. She argued that the by-laws in terms of which the water service was disconnected were *ultra vires* the Water Services Act. Mangele relied on her right to a basic water supply as referred to in the Act and did not rely on the Constitution. The council argued, successfully, that as no regulations had at that time been promulgated to give meaning to the right to a 'basic' water supply, the right she relied on had no content. Mangele was thus denied a remedy, in principle on this technical ground, but the judge also commented on the fact that she had illegally reconnected to the water supply, arguably implying that this also underpinned her denial of a remedy. The case galvanised the government to gazette regulations just under a year later defining precisely in volumetric terms a basic water supply.

The South African High Court (WLD) took a different approach in the unreported case of *Residents of Bon Vista Mansions v Southern Metropolitan Local Council*,²⁵ where the Court found that the disconnection of water supply would constitute a *prima facie* breach of the State's duty to respect people's right of access to water. In *Residents of Bon Vista Mansions v Southern Metropolitan Local Council*,³⁴ the provision of this basic water supply (now clearly a legal obligation) was given some due process protection. The applicants' water supply was disconnected as they had not paid for it. The applicants sought interim relief on an urgent basis for the reconnection of their water supply, relying directly on the Constitution. The court held that the obligation to respect existing access entails that the state may not take any measures that result in preventing such access. By disconnecting the water supply, the council had *prima facie* breached the applicants' existing rights. The court referred to the Water Services Act and noted that the Act provides that a water service provider may set conditions under which water services may be discontinued. Water supplies may be disconnected if appropriate procedures are followed, provided that consumers who are unable to pay for water services have their supply restricted to the basic level rather than discontinued completely. The court held that a *prima facie* violation of a local council's constitutional duty occurs if a local authority disconnects an existing water service, and that such disconnection therefore requires constitutional justification. They should not result in a person being denied access to basic water services for non-payment where the person proves, to the satisfaction of the water services authority, that he or she is unable to pay for the basic services.

The above cases are interesting in that they provide support to right to water by stating that a person has the right of access to a basic level of water supply, even if she is unable to pay for the same and the same cannot be denied by the State.

The South African constitutional and statutory jurisprudence can be used in India to argue that the social right to water should be articulated as a positive right to provide access and

²⁴ Durban High Court, 2002 (6) SA 423 (D).

²⁵ [2002] (6) BCLR 625.

water supply to those who do not have it and not merely a negative right of not having water resources polluted.

5. Conclusion

As we can see above, both Indian and South African constitutional law address the right to water through different perspectives. There is no doubt of the fact that the right to water is a fundamental human right and is protected as such. In India we need to push right to include the right to access to water. The implementation and enforcement of this right is crucial as it is often dependant upon resources available to guarantee such a right. Social and economic rights such as the right to water, are notoriously politically sensitive since their effective elaboration requires the political branches to adjust their allocation and distribution of resources, sometimes at a highly systemic level, in response to judicial direction.

There are some problems despite having the constitutional right to water in India – a.) There are vast areas in India where water infrastructure does not exist and water delivery of any kind is not possible. The policy to provide free basic water therefore needs to be supplemented with a policy that aims to rapidly increase access to water infrastructure - especially for the rural poor; b.) Especially in rural communities where there are not a sufficient amount of high volume users to cross-subsidise the provision of free water to all, policy creates serious problems for local governments, which are often not able to finance the free provision of basic water for all. This leads rural municipalities to take drastic measures (e.g. disconnections) that deprive their residents of access to water. A water policy therefore should be properly targeted to meet the needs of the rural poor - a particularly vulnerable group in society.

The rhetoric of a human right to water, once implemented and fleshed out in practice, has a tendency to dissolve into a series of strategies eerily resembling consumer rights – an important dimension of a market state and the urgency of the rights claim can be entangled in a web of a complex regulatory framework.²⁶ This should not necessarily stifle the rights claim to water. A human need can be left to market forces to fulfill. But if water is a human right, then the State is responsible for the fulfillment of that right even if it allows private intermediaries to play a role. For example, distributive justice and universal access are two core dimensions of socio-economic rights that can be given substance through rules on cross-subsidies, or through detailed codes of procedure governing disconnection practices by companies.

To conclude, governments, international aid agencies, nongovernmental organizations and local communities should work to provide all persons with a basic water requirement and to guarantee water as a human right. By acknowledging a human right to water and expressing the willingness to meet this right for those currently deprived of it, the water rights community would have a useful tool for addressing one of the most fundamental failures of 21st century development.

26 B Morgan, 'The Regulatory Face of the Human Right to Water' (2004) 15 *Journal of Water Law* 179-187.

V. RIGHT TO WATER

JAYSHREE SONI, WATER ACCESSIBILITY AND MARGINALISATION OF DALITS - SOME OBSERVATION OF RURAL GUJARAT

1. Water Situation in Gujarat

Water shortage and crisis is one of the environmental degradation in Gujarat. Except some parts of South Gujarat, rest of the Gujarat frequently experiences not only the drought, but ingress of salinity in all over the coastal area starting from Kutch to Bulsar. All villages located on coastal area of around 10 to 15 kms. are experience increasing of salinity everyday not only due to ingress of sea level, but more and more limestone are extracted from the deepest level of land, on the other hand more and more land comes under the irrigated agriculture which boosted the extraction of under ground water. It is a general belief that the water shortage of Gujarat is caused by nature, which is not true. In spite of the low and erratic rainfall, the combination of climate, physiographic and geology in different regions of the state did provide somewhat favourable conditions for water resources in most regions of the state about three decades ago (Hirway and Patel 1994 p.44). The alluvial area of North Gujarat has low rainfall, due to good topographic conditions of recharge, ideal conditions of aquifers which have rendered the region rich in ground water reservoirs. The hilly areas of east Gujarat have adverse physiographic and geological conditions that largely inhibit groundwater storage and have ideal sites for creating surface storage dam reservoirs. Kutch the arid region has favourable geological formation, which provided confined aquifers in consolidated formation of sweet water up to 200 mts of depth. The coastal area of Saurashtra was also capable of storing the rainfall run-off from the upland rocky terrain.

But in recent era, 85 percent of its underground water has already been extracted and areas like North-Gujarat and Saurashtra have been declared as Dark zones. 'Despite the five decades of planning and more than decade of 'Drinking water mission', there are numbers of 'No-source' villages which are growing constantly. Most of the Gujarat's 18000 villages had own reliable drinking water source, when the state was carved out from the Bombay in 1960, only 1500 villages were without adequate source of drinking water. But today 15000 villages of North Gujarat, Saurashtra and Kutch regions are facing acute drinking water shortage' (Sudarshan Iyengar 2001). Until 1960, Gujarat was heavily depending on rainwater for its agriculture. After 1970, demand of water for irrigation accelerated. In absence of perennial rivers, North-Gujarat, Kutch and Saurashtra had started to meet their water demand for irrigation from under ground water, over a period of time it leads over use of ground water. The shortage of water experiences by state is largely men-made. Rising population, growth of irrigation, industrialization and urbanization, contribute towards the over use of underground water from deep aquifers that leads in drying up of shallow acquires, creates severe imbalance in sources of drinking water in several parts of the state. Overdrawing of ground water in coastal area of Saurashtra has pushed saline water, resulting in salinity ingress in the region and deteriorate the quality and quantity of water supply. North Gujarat, Kutch and other parts of Saurashtra had also depleted water resources badly which creates water mining on a large scale. South Gujarat, which is considered as a Charapunji in terms of rainfall, has also increased water logging and salinity.

The man-made water shortage and mismanagement of water resources deteriorated quality and quantity of water accessibility in different regions with different degrees of impact. Excess salinity, excess fluoride and excess nitrates, resulted in a severe shortage of drinking water. The shortage of drinking water has serious implications for the well being of poor and weaker section of the society.

2. Gujarat and Development

Economically Gujarat is considered as a one of the prosperous states with population of 50 million spread over on 196000 sq. km. 'Although the states has only 5 per cent of the national population, it has 6.5 per cent of the national production and more than 12 per cent of the national industrial out put. The enterprising population of Gujarat has brought the state in forefront of economic development in the country. The state has not only acquired and maintained its fourth rank in per capita Net Domestic Product, but has also made a quantum jump in the post-liberalization period by attracting almost all the highest industries investment, particularly in the large and medium industry sector and has consequently experience the highest growth in the capita. The average annual rate of growth of the state economy (at the 1980-81 prices) in the post reform period, i.e from 1990-91 to 1997-98 has been 8.65 per cent, which is among the highest in India. In terms of the growth rate of the per capita state domestic product too, the state is at the top with more than 6 per cent annual rate of increase (Indira Hirway, 2002, p.37). As per the latest information, Gujarat is going to reach on the growth rate 16 per cent, which is highest among the Asia (Divya Bhaskar, (Gujarati), 1 February, 2006, pg.1).

The critical question is, has this development treated all the groups equally? Has Gujarat been able to distribute its economic development equally to all castes and classes? Has economic growth lead into a higher human development? As shown by the studies, 'the performance in the sphere of 'human development', particularly on the scale of social environment and equality is poor. The state ranks fourth in human development (Indira Hirway, 1993). Though the state has experience relatively rapid economic growth, it appears to non sustainable. Capitalist economic growth has bred consumerism. During the last five decades, the middle class in Gujarat has swelled in side disproportionate to economic growth. Both in economic and social relationship, urban-rural division have blurred (Ghanshyam Shah, 2000, p.459). Rapid economic growth does not translate adequately into human development. This creates fundamental issues related to the development model adopted by the state. Serious issues of environmental degradation are also surfaced on society level.

3. Water and Social Structure

Any scarce item influence social structure and gets distributed in accordance with power of different groups, caste, class and gender, all the three stratification systems of the society have strong relationship with water. A significant aspect of water shortage, adding more burden on poor and weaker section of the society.

As per traditional social order of Hindu society, the land rights and other commercial activities were operated by upper and middle castes, which established caste based inequality. Centuries and centuries, the practice of caste base inequality was the part of our society. After independence and rapid economic growth of Gujarat, has the state able to adequate the basic needs of drinking water to all the sections of the society without any caste base discrimination? Ours was a society of chaturvarna, how far the abolition of untouchability has

been taken place in terms of water accessibility to all groups of the society? After the six decades of independence, series of steps has been taken by state and society to bring the socio-economic weaker section with mainstream of the society, are they getting equal rights in terms of water accessibility, is the basic issues of inquiry.

Studies have shown that 'the visible practice of untouchability has decline certainly in public sphere, but incidence of atrocities against dalits have not shown similar downturn and continue unabated in post-independence India in various forms-murder, grievous, hurt, arson and rape. Conflicts over material interests and political power contribute a great deal to such incidents. Land owning classes, upper and middle class and OBCs do not tolerate land allotted to Dalits under various welfare programmes of the state. Disputes over public and common land of the resources such as forest and water lead to clash between Dalits and non-Dalits' (Ghanshyam Shah, 2001, p.20).

Therefore the purpose of this paper to examines the available water sources of the village and water accessibility to the Dalits in contemporary Gujarat. As per constitutional provisions under the article No. 15, no discrimination should be taken place on the basis of caste, race colour and sex. All are equal to access the natural resources without any discrimination of caste, sex and race. While on the other side, traditionally and socially, the system of chaturvarna was in practice since centuries and centuries long back. Due to the concept of purity and pollution among Hindu, India had experienced and it was in practice and discrimination in terms of distribution of natural resources like water. Now when India has entered in global map of development has the accessibility of water for the human being is still dominated by the caste variable?

Status of Dalit in Larger Society:

Traditionally, according to the Hindu social order, they are at the bottom of the social hierarchy and considered as Ati-shudra and Achut and are treated as untouchables. As per historical roots, several centuries in a material base of a pre-capitalist agrarian economy, Dalit was a labourers working on the landlord's farm. They were serving the village community and in return they were used to get remuneration in kind. Their role was in-built in the village social structure and controlled by the landowner dominant castes. Religious rituals reinforced their dominant position and provided sanction to the system and SCs occupy the lowest position, perpetuates and maintains inequality. Dalit were not considered to be a part of the human society, but something which is beyond that. The Dalits perform the menial and degrading jobs, and seen as untouchables which lack them from many basic services and legal protection, denied access to water, food, healthcare, housing and clothing.

After the independence, constitutional provision of Reservation for Schedule Caste and Schedule Tribe to bring the weaker section in mainstream of the society was accepted by and large, though opposed by many congress leaders and even Jansangh. To participate in power structure, under the Article 330 and 332, 78 and 540 seats are served for SC in parliament and state assemblies respectively, but studies shows that, 'the elected representatives have not secure effective power to even express the problems of their communities. The leaders belonging to the ruling parties have done little to implement the laws enacted for the benefits of the poor strata of their communities. The legislators did not actively participate in the debate in the state assemblies or parliament concerning issues affecting the deprived communities' (Ghanshyam Shah, 2001, p.36).

Population of SCs in Gujarat

As per census 2001, the population of SCs in India 1665.76 lacs (16.20%) while in Gujarat it constitute 7.10% (35.92 lacs), spread over the Gujarat.

‘Under the Schedule Caste category, thirty groups are covered. Among them 85 percent of the people are fall in castes like Mayavanshi, Bhangi, Chamar, Meghval, Garoda and Vankar, generally called untouchables. As per Urban-Rural settlement, 60.6 percent of the Dalits are living in rural area and probably occupied in agriculture labours category, while 39.3 percent are living in Urban, and occupied in unskilled and unorganized labour work (Arjun Patel, 2005). Some of them have land, but most of them are small and marginal farmers. ‘In Urban area most of them are living in slums and dirty places’ (Biswaroop Das, 2004).

Women and Water

A significant aspect of water scarcity is that the burden of bringing water from distant sources has fallen on women, irrespective of their age. Women in several rural and even in urban households have to face hardships in lack of easy access of drinking water and other domestic purposes. Women, as the water carriers and end-users are directly connected with water. Women and young girls often spent five to six hours a day for water fetching from distance place not only they themselves pushed and rushed in crowd for water collection from water tanker, which is a often phenomena of their everyday life. Interestingly, when the distance is even greater, animal power or auto vehicles are put to use for transporting water, particularly when men manage water collection, but when the distance is covered by foot then it is carried out by women only. All over the world, irrespective of their socio-economic level, daily water collection and consumption is managed by women as a part of the daily routine. However, when water distribution and management becomes decentralized and/or privatized, then the gender role gets reversed, it becomes a male dominated area, where males are the managers and women as workers. ‘Being water providers, women suffer the impact of depleting water resources most severely. These costs are (1) more time in water collection, (2) less water for drinking and other purposes, (3) loss of income from water intensive activities, (4) poor quality of water for domestic use which increase incidents of diseases, (5) loss of educational opportunities. Such hardship adversely affects her time, energy, mental, hygiene, status and her development.’ (Cecila Tortajuda, 2000) Therefore it is necessary to understand the close association between women and natural resources is more valid and primary in rural context.

But does it hold true for all categories of women? It is necessary to look more critically at different categories of women. ‘The diversity among women: rural and urban, upper and lower caste and class, educated and illiterate, women of developed countries and underdeveloped countries, differ from one another so much so that, a general categorization is difficult. Of course, there are some common problems and characteristics that all women might share, but at the same time, there are some differences in priorities and role of women across time, space and classes.

The accessibility of water and hardships of water collection also get connected with caste hierarchy within the women group, much diversity is established, particularly in India women group is not homogeneous. The position of dalit women and position of upper caste women is not same. The position of dalit and other weaker section group is more lower which increase their hardships. Control of upper castes on natural resources and power, made position of dalit women weaker. Therefore the purpose of this paper is to examine the position of Dalit's particularly women's position and water accessibility in rural Gujarat.

Issues

1. How does the condition of water resources affect Dalit life in terms of accessibility of water? Are they getting water as their right?
2. What is the role of civil society in water management to access the water to the Dalit?
3. How Dalit themselves co-opt with their condition in a large society of upper castes?

Methodology

Eight villages from constant drought prone and water scarce area of Gujarat are selected as cases. Two villages from each district of Ahmedabad (Bhal area) Amreli, Bhavnagar and Rajkot are selected for indepth inquiry. Along with secondary data, primary data are also, gathered by (1) household interview schedule, (2) participant observation and (3) focused group discussion. Care has been taken to include all castes proportionately for household interview schedule.

Social composition and water Sources of the Village

Caste, number of households, population and source of drinking water is presented in Table No. 3, 4 and 5. As per data, in all eight villages, the population of SCs varies in range from 6.5 percent to 43.8 percent. Prahladgadh of Bhavnagar district have only 6.5 percent of SCs population, while Virnagar of Rajkot district have highest numbers of (43.8 percent) SCs.

Otaria

As per Table No. 3, in normal condition public well, four ponds and public sump* were the main sources of water in Otaria. During monsoon all four ponds were filled up people's participation under the leadership of major land holders and elder people, which is interrupted after the responsibility of water supply taken by Gujarat Water Supply and Sewage Board (GWSSB). Out of 215 households of Otaria, 80 households of Rajput, Koli and Leuva Patel owned underground water storage tank which was allotted and subsidise by Integrated Rural Development Project (IRDP). During monsoon it was generally filled-up by rainwater, which is enough to meet the drinking and cooking for the family of six for through out the year, as experience shared by the respondents, but during drought, public sump was the only source of water supplied up by GWSSB. Otaria is one of the major wheat producers (non-irrigated wheat) popularly known as 'Bhalia Wheat', brings prosperity for some people. Though the failure of crops during drought, the major landholders of Rajput, Patels and some Kolis were able to maintain their financial position which helps them to fulfill their water needs by purchasing water from outside village Dholera. They managed to purchase the water for drinking and domestic consumption. Obviously, the paid charge of drinking water was higher than domestic water consumption charges. The quality of water was also reflected in paid price. Relatively the quality of drinking water in terms of TDS was better than other domestic consumption water. Public sump was the main source of water for other marginal farmers, landless labourers, and schedule caste (29.7 percent) and other people. Though the quality and colour of the water was totally unfit for drinking, even then it was the only source of water for drinking and other domestic consumption. Due to higher purchasing power of Rajpur, Patels and Kolis, they were in position to access more safe water while for rest of the

* In Local dialect the small reservoir of water is called as a sump.

groups, have to depend on public sump only, which is also a conflict centre between marginal group and other middle level group to get maximum water within minimum time.

Table 3 – Caste Composition

No	Particulars	Ahmedabad District				Amreli District				Bhavnagar District				Rajkot District				Total
		TALUKA		Barvada		Amreli		Lathi		Gadhada		Vallabhipur		Jasdan		Jasdan		
	VILLAGE	OTARIA		SANGASAR		BABAPUR		DUDHAL ABAI		PRAHLAD GADH		KANPAR		VIRNAGAR		CHITALIA		
	CASTE	No. of HHs %		No. of HHs %		No. of HHs %		No. of HHs %		No. of HHs %		No. of HHs %		No. of HHs %		No. of HHs %		
1	Koli	40	18.6	70	41.1	7	2.2	8	8.8	12	11.2	130	33.7	15	5.2	80	59.2	362
2	Leuva Patidar	60	27.9	45	26.4	260	81.7	20	22.2	45	42.0	25	6.4	80	28.1	--	--	535
3	Rajput/Darbar	30	13.9	5	2.9	5	1.5	25	27.7	22	20.5	107	27.7	30	10.5	12	8.8	236
4	Brahamin	4	1.8	--	0.0	7	2.2	5	5.5	1	1.0	5	1.2	10	3.5	3	2.2	035
5	Bharwad	8	3.7	14	8.2	10	3.1	--	0.0	--	0.0	40	10.3	25	8.7	20	14.8	117
6	Vaghri	5	2.32	5	2.9	--	0.0	7	7.7	19	17.7	7	1.8	--	--	--	--	043
7	Artisan Cates	4	1.8	2	1.1	--	0.0	--	0.0	--	0.0	21	5.4	--	--	--	--	027
8	SC'S	64	29.7	29	17.	29	9.1	25	27.7	7	6.5	50	12.9	125	43.8	20	14.8	349
9	Muslim	--	0.0	--	0.0	--	0.0	--	0.0	1	1.0	--	0.0	--	--	--	--	001
	Total	215		170		318		90		10 7		385		285		135		1705

Source: Village Record.

* Information not Available

M- Male;

F-Female

Source: Village Record.

Table 4 – Population

No.	Particulars	Ahmedabad District				Amreli District				Bhavnagar District				Rajkot District				Total
		Taluka		Barvada		Amreli		Lathi		Gadhada		Vallabhipur		Jasdan		Jasdan		
		VILLAGE		SANGASAR		Babapur		Dudhalabai		Prahlagadh		Kanpar		Virnagar		Chitalia		
Caste	No. of Persons		No. of Persons		No. of Persons		No. of Persons		No. of Persons		No. of Persons		No. of Persons		No. of Persons			
1	Scheduled caste		%		%		%		%		%		%		%		%	
	M	125	10.4	--	*	150	11.7	137	53.7	40	10.5	400	17.3	117	3.8	38	6.5	1007 9.84
	F	75	7.5	--	*	156	9.9	113	46.1	25	11.3	300	21.4	113	4.7	32	5.4	0814 9.70
2	Schedule Tribe																	
	M	450	37.5	75	6.2	--	--	--	--	175	46.0	1000	43.4	--	--	--	--	1700 16.61
	F	300	30	75	7.5	--	--	--	--	1000	45.4	400	28.5	--	--	--	--	0875 10.43
3	SEBC																	
	M	450	37.5	--	*	108	8.4	118	46.2	165	43.4	900	39.1	168	5.5	544	93.4	2453 23.97
	F	300	30	--	*	110	7.0	132	53.8	95	43.1	700	50.0	157	6.6	556	94.5	2050 24.43
4	Other																	
	M	175	14.5	1125	93.7	1019	79.7	--	--	--	--	--	--	2752	90.6	--	--	5071 49.56
	F	325	32.5	925	92.5	1295	82.9	--	--	--	--	--	--	2105	88.6	--	--	4650 55.42
	Total M	1200	54.5	1200	54.5	1277	44.9	255	51.0	380	63.3	2300	62.1	3037	56.1	582	49.7	10231 54.94
	F	1000	45.4	1000	45.4	1561	55.0	245	49.0	200	36.6	1400	37.8	2375	43.8	588	50.2	8389 45.05
	Total	2200	11.8	2200	11.8	2838	15.2	500	2.6	600	3.2	3700	19.8	5412	43.2	1170	6.2	18620

* Information not Available M- Male; F-Female
Source: Village Record.

Table 5 – Available Sources of Drinking Water
(1) During Drought
(2) Normal condition)

No.	Particulars	Ahmedabad District				Amreli District				Bhavnagar District				Rajkot District			
		Taluka		Taluka		Taluka		Taluka		Taluka		Taluka		Taluka		Taluka	
		Dhandhu ka	Barvada	Amreli	Lathi	Gadhada	Vallabhip ur	Jasdan	Jasdan								
	Villages	Otaria	Sangasar	Babapur	Dudhalab ai	Prahladga dh	Kanpar	Virnagar	Chitalia								
A	Source	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1	Water Tank	-	-	-	-	-	-	-	-	-	-	√	√	-	√	-	-
2	Well (Public)	-	√	-	-	-	√	-	-	-	√	-	√	-	√	-	√
3	Well (Private)	-	-	-	-	-	√	-	√	√	√	√	√	-	√	-	√
4	Hand pump (Own)	-	-	-	-	-	-	-	√	-	√	-	-	-	-	-	√
5	Hand pump (Public)	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-
6	Pond	-	√	-	√	-	-	-	-	-	-	-	-	-	√	-	√
7	Reservoir(sump)	√	√	√	√	-	-	-	-	-	-	-	-	-	-	-	-
8	Tanker	-	-	-	-	√	-	√	-	-	-	√	-	√	-	√	-
9	River	-	-	-	-	-	√	-	-	-	√	-	√	-	-	-	-
10	Water Tap	-	-	-	-	-	-	-	-	-	-	√	-	-	√	-	-
B	Source of Irrigation	Pond		--		Bore P u m p		--		Bore Pump		Bore Pump		Bore Pump		Bore Pump	

At the time of Fieldwork

√ - Available

1

Before Drought (in Normal Condition)

-- Not Available

2

Source: Village Record and field observation.

Sangasar

Sangasar is a village of Koli, Leuva Patel, Rajput, Bharwad and SCs (17 percent). In normal condition, the village pond was filled-up by people themselves for drinking and domestic consumption; by and large the available quantity of water was sufficient to meet the requirement of whole year, which is highly depend on amount of rainfall, but in drought situation water supply was managed by GWSSB, due to remote area the supply of tanker was totally irregular and insufficient to fulfill the minimum requirement of three-four buckets of drinking water for the family of four or five. Here also the major landholders belongs to Leuva Patel, Koli and Rajput managed to purchase the drinking water from outside the village, while water for domestic consumption was carried out by women from surrounding villages, such condition often lead to disputes between villages. Allegation of water stealing is a permanent charge on people of Sangasar which openly revealed during the combine meeting of Otaria and Sangasar which was converted in open fight among women of both villages. Among these groups, access of water to SCs was worsening due to their caste identity. After taking hardships of wandering around the surrounding villages, at least the elite group like Rajput, Koli and Patels were managing to get two or three pots of water per day while SCs have to live on mercy of upper caste to get at least one pot of water.

Babapur and Dudhalabai

Babapur is a village of Leuva Patel and SCs constitute only 9 percent of the population. In normal condition, well and non-perennial river were the main sources of water, while in Dudhalabai, (mix proportion of caste, though Rajput and SCs have same percentage of population, the ownership of own hand pump is associate with Rajput and not with SCs), hand pump was the main source while during drought water tanker was the only source of water for drinking and domestic consumption in both villages. At the time of water tanker arrival, in both villages, people, were used to gather at the water collection center and cramming fighting, pushing to each other for getting as much water as they can in less time was the common phenomena of everyday life. During the course of water collection, hitting and injured to each other was so common that the physical fighting have become a part of the daily routine across the settlement. Instead of standing in queue, everybody was looking hurried to get more water in less time. Everyday it was a scene of war playing by people themselves. Interestingly, the people whom are preferred to keep distance from SCs, are openly pushing to get them aside and attempted to get maximum water, though it was touched by SCs. During the hardships the concept of purity and pollution is easily give up by upper castes, which was in practice during the normal condition.

Prahaladgadh and Kanpar

Prahaladgadh and Kanpar are selected from Bhavnagar district. Prahaladgadh constitute lowest (6.5 percent) percentage of the SCs population among the cluster of eight villages of this study. It is a village of Leuva Patel. In normal situation, hand pumps, wells and non-perennial river are the sources of water, while only one private well owned by Rajput was the source of water during drought.

Kanpar is inhabited by Koli, Leuva Patel, Rajput, Bharwad, Vaghri and SC (12.9 percent). In normal situation, private and public wells, water tank and non-perennial river are the sources of water, while during drought, out of hundred only three or four wells had some level of water, out of four only one well had sweet water. Non-perennial river was also dried and frequency of water tankers was also reduced. 90 percent of the population was depending on

water tankers for drinking and domestic consumption. Few Rajput and Leuva Patels had own well at their farms, while remaining of the households have to run behind the water tankers only.

Virnagar and Chitliya

Virnagar is a village of SCs, constitute 43.8 percent of the population, local water works operated by grampanchayat was the main source of water in normal situation. Along with water works, public and private wells and non-perennial river are other sources of water for drinking and other domestic consumption. During drought all water sources were dried and water supply was managed by GWSSB tankers, which was not sufficient to fulfill minimum water requirements of the entire village. This has led to a fierce agitation by women against the GWSSB as a result of which the supply was rounded 20 tankers per day as against 10. Chitliya is also a village of Koli and Bharwad SCs constitute 14.8 percent of the population. Situation of Chitliya is worst in terms of water sources. Normal days, private wells and non-perennial river are the main sources. But the hardship of water collection is so acute that people can not differentiate between hardship and relaxation. During drought year, all wells were dried and water tanker was the only source of water. In both villages, quarrel and conflicts between different socio-economic groups, including that of physical fighting had become a part of their daily lives. In both villages, demand for a separate water source was often raised by SC and non SC groups. Both have strong prejudices against each other on the issue of water resources. In normal situation also, conflict between SCs and non-SCs for the water is common.

Caste, Water and Status

Any scarce resource mediated by the social structure and gets anticipated in accordance with power relations pertaining to caste, class and gender. Obviously, availability and distribution of water too has a strong relationship with the social structure. In all eight villages, there is no separate or special provision of water collection and distribution centre made on the basis of caste. All water resources are common and open to all without any caste discrimination, even than caste order creates hierarchy on the issue of water collection, distribution and accessibility.

As per local hierarchy, ownership of private well, purchased water, water tap and water tank are found in descending order of status. The households, owning well are at the top in the status pyramid. Naturally, households of this group enjoying more comfort compare to the rest. In all eight villages, households with more productive units like land, have their own source of water, like well or underground water storage tank. They tend to get relatively safe and sweet water for drinking and other domestic consumption. This increases their status among other lower socio-economic groups. Women of this group have needed not to go outside for water collection. Close relatives of upper class/caste like Rajput, Patel and Koli are also enjoying little comfort by asking for water with less hesitation, while it is not available to SCs group.

Purchasing water from outside the village, probably from well owners and those supplying water by tanker, is also a luxury of some families in each village. Most among them have some regular as well as and extra income and saving for survival, particularly owing large land holding in Rajput, Patel and Koli. Some families in each village managed their water needs by spending money. Fetching water from public source is often considered as a lower activity by upper caste families. They refrain from lowering their status by sending women

outside home for collection of water. In order to maintain their social status, even when they have no source of water of their own, they preferred to purchase water from outside the village. Incidence of such occasion however remains with few families across the villages of entire study region.

Even than in each village, large numbers of households are fall in the lowest category of the status pyramid with an average of 80 percent of the households depends on public water tanks and/or tankers for drinking water and other domestic water consumption. Though fall in same category, the accessibility of water within the caste structure, creates discrimination and inequality among SCs and non-SCs. While collecting the water, yet the women of SCs are hesitate to stand in queue as per their right and waiting for the mercy of kind hearted women of upper castes to collect the water, which is not only taking more physical time and energy, but creates a marginalization and inhuman approach.

Water and Status of Dalit

Data of all eight villages indicates extra hardship and humiliation of the women specific to the scheduled caste. In all eight villages, during focus group meetings, the SCs women demanded separate water spot or sumps for them to avoid quarrels with other non-SC women something that was always occurred at the time and locations of water collection. In Kanpar at the time of water tank allotment, separate tap was allocated to the SCs. This has been functioning for some years, when it was noticed the advantage of SCs women to get more water with less time due to their small numbers, compare to other non-SCs, slowly the upper caste group has started to collect water from the tap which was allotted for SCs. Subsequently they began to push them openly and appropriate away the separate tap was allotted to the SCs and hardly remembers the rituals of purity. Now it has turned into a general tap and women of the SCs have to stand aside. Instead of getting water from tank as their right, now they are obliged by upper caste women to collect water from tanker. Moreover, when water tankers failed to arrive, or at times when water supply was less, women from upper caste comes to ask for water from other women being to non-SC groups, having some water in their farm well while lower caste women could not even dare to do so. Again, women of SCs remain lower at the bottom of the social hierarchy among other women. More or less, the trend remains similar in all villages. Otaria and Babapur have been some what different for the presence of Gandhian Nai Taleem institutions working since long has weakened the caste hierarchy and SCs women did not face much discrimination. But subtle community and humiliation and hence the upper caste people did not dare to avoid the SC people and allow them for water collection. Even then the SCs of both villages want separate water provision for their community due to latent humiliations of upper castes while collecting water. Virnagar and Chitliya also face group rivalries between upper castes and SCs on the issue of water collection. In both villages, differences among caste group surfaced openly, during focused group meetings women of the upper caste walked out, while women of the SC group started shouting on the issue of water collection from tankers. The upper caste women preferred to call a separate meeting to express their opinion. According to them it was too difficult to express what they want to say in the presence of SC women due to their aggressiveness. It was a clear cut difference between the groups; each one charged the aggressiveness and domination of other group on the issue of water collection. In Chitliya, during focused group meeting the SC women walked out and force to have a separate meeting with them to narrate their hardship and problems of water collection. Both the communities were in favor of separate water collection points, which lead to infer that stratification along caste line plays crucial role. It also implies that the people belongs to lower caste, sounds have lower social status on an issue of natural resource like water.

Powerful groups hold more control, while weaker group of SCs remain weaker even while the issue relates to distribution of natural resources.

Water accessibility and Practice of Untouchability

The pertinent point that emerges here is that, in all eight villages, though SCs population proportionately different, the strong demand of separate water provision is come out unanimously. The critical question is, why this group of people are desire to have a separate provision, though the state made a provision by constitution, the right of equality to all, in terms of availability of all types of opportunities. The inquiry of all eight villages, justified the fare demand of separate water provision is come out as a result of the concept of purity and pollution of non-SCs. Moreover it is also a fact that the concept of purity and pollution not practicing strongly, the mindset of upper caste is not ready to accept the rights of SCs. Though the untouchability abolished legally, yet on issue of water, by and large, the discrimination for the water to Dalit is in practice by non SCs. Oteria have 29.7 percent of SCs population, and in normal days, four ponds are the source of drinking water. As narrated by SCs group of people, it is in practice not to take water from same place where other non SCs are taking water from the pond. During drought, all ponds were dried up and water supply was managed by GWSSB. While collecting water from the sump hidden humiliation always takes place, though the Gandhian institution like Nai Talim is working on total abolition of untouchability. More or less, in all rest of the villages, SCs have admitted the constant humiliation for water touch and many of them avoid to collect the water in presence of non SCs due to fear of humiliation and they preferred to go in group to avoid the quarrel, conflict and humiliation with non SCs. The same event read by non-SCs differently. According to them they are coming in group to show their strength, and some of them gave a threat of violation of atrocity. While some SCs have preferred to keep distance and make a mark when water source is common. The argument behind the deliberate compromise, 'We have to work on their farm, than why should we invite any disputes with them.' For water collection many times they have to wait for the non-SCs women to pour the water into their pots. The roots of separate demand of water provision are lying in traditional social order even after the six decades of independence though ranking first in field of investment, rural Gujarat practicing hidden untouchability with SCs group.

Role of civil society

What is the role of civil society to access the water as their right to SCs? Has any steps had been taken by village community? During the inquiry the institutions like village panchayat head and other elected members are also interviewed to discuss the issue of conflicts and quarrels which frequently taken place between SCs and non SCs. At the end of the inquiry all representatives' members and village head concluded with only one opinion, 'It is their personal matter and personal prejudices and personal quarrels and conflicts' which made themselves safe from the disputes and take away from responsibility. None of them took it as a serious issue of social justice. Elected members of the Dalits have do not say in village affairs. Even the special power and provisions accorded to elected SC members to protect the interest of their community are not effective. In Gujarat, the state government created Social justice Committees at all levels of Panchayatiraj to protect the interest of the deprived communities. The committee has a statutory power to inquire into cases involving injustice and discrimination against SC and ST. Evaluation of the working of the committee shows that they have not made much difference in the condition of Dalits in the state (Ghanshyam Shah, 1977), and atrocities against Dalits continued. The members of this committee occupy the office but not take the necessary political power to improve their discrimination and

marginalisation of SC and ST. In all eight villages none of the village head took any initiative to minimise the marginalisation of SCs. Interestingly, in Chitliya, the position of Sarpanch is held by SC woman, when she contacted, she was also wandering for water with two pair of vessels and asked the author to contact her husband rather than she. After some attempts, she expresses her opinion for water provision. She doesn't know to whom and how to meet higher authority to apply for the water provision. She herself practices untouchability with non-SCs while going for water collection. She admitted, the SCs are getting less amount of water compare to non-SCs. Kanpar village has different experience, the separate provision for SCs was snatched away forcefully by upper castes. In all eight villages, whether SCs are in majority or in minority, none of the village leader, head, elected member and any social activist took any steps to manage water distribution to all groups without any caste based humiliation.

Summary and Conclusion

Late Prof. I.P. Desai conducted a study in 1971 on, 'Water facilities for the Untouchables in Rural Gujarat,' with object of in what matters the untouchability is in practice which covered 64 villages of rural Gujarat, and found in 44 villages, no weakening of belief in pollution or in untouchability for common source of supply of water' (I.P. Desai, 1973). Again same study with same objective and area restudied by Prof. Ghanshyam Shah in 1997 and found, 'after intervening of twenty five years, two villages were added to this list in practice of untouchability and water accessibility to SCs. (Ghanshyam Shah, 2000). Again with some what different objective and in different area, (but with relevant theme) the recent study also justifies the practice of untouchability and lack of water accessibility to Dalits. In another way all eight villages of this study are included in previous list of villages' studies done by Profs I.P. Desai and Ghanshyam Shah on the issue of untouchability and water accessibility to SC.

The only difference between two studies, the separate provision of drinking water was a symbol of untouchability shown by Profs. I.P.Desai and G.Shah, while in recent study though the separate provision of drinking water was allotted for the dalit to access drinking water, eventually became common to all caste, even than the practice of untouchability is not weakened in rural part of the Gujarat. Moreover it creates more hardships and humiliation for Dalit women, and again the demand of separate water provision is surfaced which shown failure of the state. Social hierarchy based mindset still dominating on constitutional provision of equality.

In all eight villages it has been found that the degradation of natural resources, like water, due to unsustainable development model of state and mismanagement of water sources, leads disempowerment of SCs particularly women, in drinking and domestic water sector. It has, at regular intervals, been announced by the state, that drinking water should be accessible to all sections of the society and would be the priority area for planning. Despite this, ensuring access to safe drinking water to all has not been realized. It is found that the depletion of water resources has added much burden on SCs and forced to bring water from distant and different places, putting in too much of their time and energy. More time for fetching water, means less time for income generating activities. To spend more energy to fetch water means less time for relaxation and other self-development oriented activities. All these components lead to SCs in marginal position and lead away from their own empowerment. It is evident that the roots of the system are encompass the social structure of the society, with respect to each other social variables, the deprived castes are far behind than other upper castes of Indian society.

Example of Gujarat may not be enough to understand the water crisis but it provides indications to the future scenario. Thoughtless planning and policies creates water scarcity that ultimately affects on weaker section of the society and made them more marginalized. However it would be not fare to say that nothing has changed in last sixty years and the condition of Dalits has remained same as it was before independence. At the same it is also true that, the socio-economic condition of the Dalits is improved and they do revolt occasionally. Many of them assert their rights and Dalits are also become more conscious of their rights but all of them do not confront the dominant castes and classes because they are in a minority and fear that may not succeed. It is evident that, many protest movements and revolt are emerged in favor of reservation in education and job, but not a single protest movement takes place from dalit group to safeguard the water accessibility as their right. It is also true that, the fear of atrocity used by dalits against upper caste, only on individual bases, which creates only hatrates against the SCs and not accepted as their right. Except Virnagar, in all of the seven villages of this study had face discrimination and humiliation for water which reflected in their demands, while as observed the SC group of Virnagar acquire aggressiveness and conscious about their rights and started to dominate on other castes rather than to go marginalised and raise their voice against the traditional feudal social set-up and challenge the hierarchy based inequality on the issue of pollution and purity. It is true that, to the some extent, untouchability has been reduced considerably in some public sphere, which are directly manage by the state laws, but not as a thoughtful way of other upper castes. Definitely it reduces, but complete disappearance in terms of water accessibility is not taken place and kept Dalit in marginal position.

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VIDEH UPADHYAY, A RIGHTS BASED APPROACH TO WATER USER ASSOCIATIONS IN INDIA

A number of States have now passed laws creating Water Users Associations in the last few years. Given the bias in the legal system that recognizes statutory rights to the exclusion of almost any other form of rights, the passing of these laws presents an opportunity to these Associations to see what effective rights have come their way through these laws. The paper comments on the formal rights available to these Associations in different States today and more particularly in Andhra Pradesh and Chhatisgarh while focusing on both their internal and external rights. It shall also suggest whether and how far they are precipitating a group rights regime while tracing its inevitable linkage to the critical question of water entitlements and the state of the irrigation systems.

Introduction*

Beginning in the 1980's, there have been a large scale programs to turn over irrigation management from Government Agencies to organized Water User Associations in a number of countries such as Philippines, Indonesia, Senegal, Madagascar, Columbia and Mexico¹. This trend has been seen as the convergence of a number of policy trends including decentralization, privatization, participation and democratization². A result of this has been 'rolling back of the boundaries of the state' within the irrigation sector. Participatory irrigation management refers to the programs that seek to increase farmers' direct involvement in system management, either as a compliment or as a substitute for the state role.

The acceptance of Participatory Irrigation Management (PIM) was powered by the dismal state of irrigation systems itself. Non-irrigated fields because of undependable water flows, indiscriminate use of water by head-enders depriving the same to the tail-enders, inequitable distribution and resulting conflicts created a situation where farmers participation was beginning to be seen as an answer. The Water User Associations (WUAs) was seen as a lasting response to such systemic inadequacies. It was thought that where the state had failed the farmers will not, and that operation and management of irrigation system by the farmers themselves can change things around. The result was that state after state in India, much like other parts of the world, came up policies, resolution and then laws supporting PIM.

Regime without Farmers' Ownership of Rights

Almost ten years on since the first State law on 'Farmers Participation in Management of Irrigation Systems' came into being the euphoria and romance associated with WUAs have given way to hard realities. Ambitions have taken a beating and expectations from WUAs have been scaled down. A post mortem of ten years with PIM can explain why this happened – a post mortem that is due and is yet to be carried out. This paper is not in the nature of a

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1 Vermillion Douglas (ed.). 1996 The Privatisation and Self Management of Irrigation. Final Report. Columbo, Sri Lanka: International Irrigation Management Institute

2 for further comment on this aspect see Joshi, Hooja Rakesh (ed.) Participatory Irrigation Management: New Paradigms for 21st Century, Rawat Publications, 2000

post mortem- it only focuses on one aspect of WUAs that holds the key to their sustainability, their rights.

From an essentially legal standpoint two points from the legislative history of Participatory Irrigation Management in India stands out. One, the legal and management regimes for farmers were never owned by them. The laws were made for them not by or even through them and this despite the fact that they are at the centre of giving it operative effect. Secondly, and more relevant to the present paper, the legislations did not establish clear water rights.

While the focus of the paper is on rights and we shall return to it a few words on the first aspect can put the points to follow in better perspective. Why is that the legal regimes for Participatory Irrigation Management is not owned by them? The question becomes more troublesome when we know that India has had a long history of farmer managed irrigation systems with a number of examples from the *Kuhls* of Himachal to the tanks of South India.³ However, the traditional community managed systems has not been the motivation for shaping new policies involving local people for managing irrigation. In fact the laws creating Water Users Association are all part of a dominant trend of policy and law making as part of donor-driven technical assistance projects across the country.⁴ The adoption of this mode of law making has meant that that a true demand-oriented and participatory mode for establishment of the WUAs has simply not been possible. The fact that this can be done has been shown by other countries where intensive preparatory steps are taken before enactment of a legislation beginning with the identification of potential participants as well as the area of operation of the WUA. For example, the Romanian legislation calls for the establishment of an 'initiation committee', composed of several potential members of the WUA. The committee must call a preliminary meeting to which all potential members are invited. At that meeting, decisions are taken on the proposed delimitation of the territory of the WUA, on the individuals to be responsible for drafting the WUA governing document and for taking the necessary steps for the establishment of the WUA.⁵ In other places the decision to establish a Water Users Association is itself through petitions supported by farmers and landowners themselves.⁶

The fact that these processes were not thought about and never adopted in any of the State laws in India has also meant that the farmers know little about the law and rights created in their favour through these laws. This last point laws especially important for the purposes of the present paper as it points to limits of a rights based approach in developing WUAs across the country. Before closely examining the rights of the WUAs and the individual water users it makes sense to first understand the overall structure of Water Users Association as created by the various state laws.

The Basic Legal Regime: Three Tier Water User Bodies Under Formal Laws

³ For a detailed review on these aspects see *Dying Wisdom*, The Fourth Citizens Report, Centre for Science and Environment, 1997

⁴ The implications of this nature of law making is in itself a critical area of enquiry though it outside the purview of the present paper.

⁵ A similar procedure is foreseen by the Bulgarian legislation.

⁶ Take for example California where the process of establishing an Irrigation District is initiated by petition. Such a petition must be supported by a majority of land owners or at least 500 land owners who hold title to not less than 20 percent of the value of the land to be included within the proposed district.

As pointed out above several states in the recent past have come up with major policy and legal initiatives that have transferred some responsibilities of Irrigation Management from government agencies to the Water Users Associations (WUAs).⁷ While some of these WUAs have been founded under government resolutions, most states today have done so through enabling laws. States like A.P, Rajasthan, Orissa, Madhya Pradesh, Tamilnadu Maharashtra and Chattisgarh the law enabling farmers' participation in Irrigation management has come by the enactment of specific 'Farmers' Participation in Management of Irrigation Systems' laws.⁸ Surveys of these laws and rules made under them were taken for the present purpose. Specifically these laws included- The Andhra Pradesh Farmers' Management of Irrigation Systems Act, 1997, Madhya Pradesh Sinchai Prabandhan Me Krishkon Ki Bhagidari Adhinyam, 1999; The Tamil Nadu Farmers' Management of Irrigation System Act, 2000; Kerala Irrigation and Water Conservation Act, 2003; Orissa Pani Panchayat Act, 2002 Maharashtra Management of Irrigation System by Farmers Act 2005 and The Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Adhinyam, 2006.

Typically all these laws empower the Project Authority to delineate every command area under each of the irrigation systems 'on a hydraulic basis which may be administratively viable' and declare it as Water Users area. Every Water Users area is to be divided into territorial constituencies. It provides for establishing a Water User Association (WUA) for every Water Users area. Every WUA is to consist of all water users who are landowners in such Water User area as members.⁹ All the members constitute the general body of the WUA. There has to be a managing committee for every WUA and the project authority is responsible for election of President and members of the Managing Committee of the WUA by direct election from among its members by the method of secret ballots. Further the project authority may also delineate every command area comprising two or more water users area as a Distributory Area. All the presidents of was constitute the general body of the Distributory Committee. The general body of the distributory committee also elects the president and the members of the managing committee of the Distributory Committee. Likewise, the government may delineate any command area to be a project area while requiring it to form a project committee for every project area. All the presidents of the Distributory Committee constitute the general body of the Project Committee.

The WUAs at the primary level, the distributory committee at the secondary level and project committee at the project level is together referred to as *Farmers Organization* under the laws. In some cases there is also a liberty for the managing committee of a Farmers Organization to constitute subcommittees to carry out their functions. Finally, Water Users Association have typical functions like (a) to prepare and implement a warabandi schedule for each irrigation season, (b) to prepare a plan for the maintenance, extension, improvement, renovation and modernization of irrigation system, (c) to regulate the use of water among the various outlets under its area of operation, (d) to maintain a register of landowners as published by the revenue department, (e) to monitor flow of water for irrigation, (f) to resolve the disputes if any, between its members and water users in its area of operation.

⁷ The formation of these associations is now generally seen as the most effective strategy for ensuring farmer/users participation in management of water for irrigated agriculture.

⁸ Some States like Goa have provided for farmers' association by amending their Command Area Development Acts. Other states have adopted the principle of Participatory Irrigation Management through government resolutions and orders.

⁹ Though there useful variations from these positions in some states and most notably by the *Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Adhinyam, 2006*.

Rights of WUAs and the Water User: The Position in India

The structure of the WUAs in various State laws has been discussed above. Amongst these there is no single legislation which specifically talks about the rights of the WUAs or of the individual water user. However, there are two Rules made under two different laws which explicitly mention about of rights and responsibilities of the WUAs. These two Rules are the - *The Andhra Pradesh Farmers' Management of Irrigation Systems Rules , 2003* and the recently notified *Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Niyam, 2006*. These Rules explicitly talk about the right and responsibilities of the WUAs and the right and responsibilities of each of the water users in these Association. This gives the impression that under these Rules there is an equal emphasis on both the individual and the group rights. This aspect will be closely seen in the following paragraphs. Besides, conceptually the rights with the WUAs can also be seen as internal and external rights of the WUAs. Apart from developing an understanding on the external water rights of the group, which it can use to its advantage against every one outside the group, there is a need for better appreciation for internal water rights laying down the right of the group member's vis-à-vis each other. An elaboration of the rights specifically vested by the two Rules in AP and Chhatisgarh within the above typologies is attempted below.

Rights with the Water Users Association: An Analytical Perspective

The Andhra Pradesh Farmers' Management of Irrigation Systems Rules , 2003 and the Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Niyam, 2006 both make clear that the Water Users Association has a -

- Right to obtain information in time about water availability, opening/ closing of main canal, periods of supply and quantity of supply, closure of canals etc.;
- Right to receive water in bulk from the irrigation department for distribution among the water users on agreed terms of equity and social justice; and also
- Right to receive water according to an approved time schedule.

Clearly these are well meaning rights and are critical for survival of the WUAs simply because if there is no water there is no point having a WUA. Both the Rules however do not make clear that if the right to receive water in bulk from the irrigation department is not honoured what remedies might lay with the WUA. In other words, whilst there is a generally worded right there is no accountability of the department that has been established through this provision. Besides, merely saying that these rights exist will not be enough if the irrigations systems are not properly rehabilitated to be in such a condition where minimum water flow could be maintained. Many of the Water Users Associations today are paper entities because this minimum condition necessary for their existence is just not there. The point is that without assessing the water resource and ascertaining its availability assigning water rights is the last thing that will improve irrigation management in the country.

The above mentioned rights are followed by another set of rights under the two Rules. These are mentioned as:

- Right to allocate water to non-members on agreed terms and conditions;
- Right to levy separate fees for maintenance of the system ;

- Right to levy any other fee or service charges, to meet management costs and any other expenses;
- Right to obtain the latest information about new crop varieties, and their pattern, package of practices, weed control etc., for agriculture extension service and purchase inputs such as seeds, fertilizers and pesticides; for use of its members;
- Right to have full freedom to grow any crop other than those expressly prohibited by a law and adjust crop areas within the total water allocated without causing injury to neighbouring lands;

These set of rights relate to some 'second generation' concerns and acquires meaning only if the basic requirement - that of availability of water is met. In light of the fact that in most of the WUA there is a scarcity of water and especially so with the tail - end members one can't visualize a scenario where the water is allocated by the WUA to non members. Likewise both the willingness and the ability to charge additional fees/water charges are questionable and this points to a larger problem. Even the existing water charges, which are not paid in many circumstances, are far less than the expenditure needed for proper operation and maintenance of the system. All across the country the irrigation fees are a small fraction of the operation and maintenance costs of the systems and an even smaller fraction of the actual costs of private lift irrigation with diesel pumps. The highly subsidised irrigation fee structure has helped establish a low-level equilibrium. Farmers are unwilling to demand improved maintenance and service from the irrigation department lest it might result in higher irrigation fees. In turn, the department staff justifies lack of maintenance and poor operation and maintenance by citing low irrigation fees.¹⁰ In such a scenario an active search by the WUA for information on crop varieties and agriculture extension service is some years away notwithstanding the right that the WUA in AP and Chhatisgarh has been granted today. These set of rights provokes one to admit that vesting of substantive right is one thing, and having a capacity to claim it is another.

The third sets of Rights with the WUA under the two Rules are worded as follows:

- Right to participate in planning, and designing of micro irrigation system;
- Right to suggest improvements/modifications in the layout of Field Channels/Field Drains to supply water to all the farmers in the command; and
- Right to plan and promote use of the ground water.
- Right to carry out other agro based activities for economic upliftment of its members ;
- Right to utilize the canal bunds - as long as such use is not obstructive, or destructive to hydraulic structures - by planting timber, fuel, or fruit trees or grass for augmenting the income of the farmers organisation;

¹⁰ See Upadhyay Videh; *Command Area Development: Restructured Guidelines*, Economic and Political Weekly, July 15, 2005. Perhaps the biggest reason that perpetuates this equilibrium is the fact that there has been 'absence of a link between the payment of service charges and the prospect of improvement in services provided by the system in response to the user requirements' and this has 'provided a fertile ground for the politicisation of the cost recovery processes'

- Right to engage into any activity of common interest of members in the command area related to irrigation and agriculture and supplementary businesses for self sufficiency and sustainability of the Organization;
- Right to receive funds and support from various development programmes of the central and State government and other development organizations.

All these rights are strictly speaking management and planning functions and are not rights in the strict sense of the term.

Rights of the Individual Water User

Both the Andhra Pradesh Farmers' Management of Irrigation Systems Rules, 2003 and the Chhattisgarh Sinchai Prabandhan Me Krishkon Ki Bhagidari Niyam, 2006 not only talk about the rights of the WUA but also try and pin down the right of its members. The right vested with the individual water user includes:

- Right to suggest improvements/modifications in water deliveries;
- Right to get information relating to water availabilities, allocations, opening/ closing of canals and outlets, period of supply, frequency, etc.;
- Right to receive water as per specified quota for use;
- Right to sell or transfer the water share to any other water user within the operational area of water users association with the permission of the concerned water users association and without affecting the rights of the other members of the Association.
- Right to participate in the General body meeting and receive annual reports; and
- Right to receive equitable benefits from the activities of the organization.

A close look at the first three rights mentioned above can suggest that these rights of the water users are directly dependent on the availability of water with the Water Users Association. Thus access to irrigation waters is at the base of the realization of all these rights both for the Association and also its members. The 'right to sell or transfer the water share..' opens up a useful space for tradable water rights but except in isolated pockets it is provision that is futuristic. This is especially true for the State of Chhatisgarh. When it comes to 'right to participate...' suffice it to say here one that right to participation does not ensure participation. The 'right to receive equitable benefits...' is a right with the members that is delightfully vague for the Water Users Association. It will not have much meaning unless the bye laws of the WUAs give meaningful content to it.

The Specific Internal and External Water Rights of the WUAs

Under the two State Rules mentioned above the rights of the WUA that it can exercise with its members specifically include: (a) Right to allocate water to non-members on agreed terms and conditions; (b) Right to levy separate fees for maintenance of the system; and (c) Right to levy any other fee or service charges, to meet management costs and any other expenses. As distinguished from this the specific 'external' rights of WUA which it can use to its advantage against every one outside the Association include the following:

- Right to obtain information in time about water availability, opening/ closing of main canal, periods of supply and quantity of supply, closure of canals etc.;
- Right to receive water in bulk from the irrigation department for distribution among the water users on agreed terms of equity and social justice;
- Right to receive water according to an approved time schedule
- Right to obtain the latest information about new crop varieties, and their pattern, package of practices, weed control etc., for agriculture extension service and purchase inputs such as seeds, fertilizers and pesticides; for use of its members
- Right to have full freedom to grow any crop other than those expressly prohibited by a law and adjust crop areas within the total water allocated without causing injury to neighbouring lands.

The limits of these rights have been indicated in the preceding section. Keeping that in mind it is a moot question as to how much are the WUAs empowered through the mere vesting of these rights.

Locating Rights in Irrigation Systems: Water Entitlements as the Way Ahead

The above analysis puts in perspective the observation from an insightful commentator that a striking aspect of India's PIM programmes is the little attention that is given to water rights. It has meant that the governments' rights to water are unchallenged, while its obligations to deliver water to WUAs are rarely legally binding.¹¹ The points made above have also shown that the critical concerns on increasing the access to the water resource apart from larger questions relating to who controls the resource as well as ownership rights on them have all never been addressed.¹² The point is more strongly put in a historical context. Notably, medieval inscriptions of South India have revealed various functions relating to irrigation, which were exercised by the Village assemblies. These included ownership of Water resources, powers to arrange for construction, repair and maintenance of tanks, powers regarding land transactions relating to Irrigation, levy and collection of cess, powers to engage and remunerate local functionaries, maintenance of records, disputes settlement and relations with Central Government.¹³ The range of power with the Village assemblies at that time is in sharp contrast with the restrictive functions largely including only water distribution, management and local monitoring, that has been vested with the Water User Associations under the new State laws. It may also be mentioned here that State officials may not necessarily disagree that the functions with WUA are restricted but they surely attribute the restrictive range to the lack of capacity with the farmers and the water users.

¹¹ Mosse David; *The Rule of Water; Statecraft, Ecology, and Collective Action in South India*; Oxford University Press; 2003. The author adds: The result (of this position on rights) has been that the government may have lost little control over irrigation resources, and arguably, in establishing registered WUAs has retained its rights and also acquired a new mechanism to extend its influence in rural society.

¹² It may be dangerous to treat these as mere abstract enquiries. For example, it has been pointed out that in Mexico the large scale irrigation management transfer programme was accompanied by a revision in the water rights law, and water users' organization are even demanding rights to water at the headwork of irrigation systems. This suggested to Ruth Meinzen-Dick that 'some kind of control rights over water to user groups can be an effective part of PIM programs.' See Gulati Ashok et al; *Institutional Reforms in Indian Irrigation* Sage Publications, 2005

¹³ For more details on the relevant history in this regard see *Dying Wisdom*, Centre for Science and Environment, 1997.

Quite apart from whether and how much is the lack of capacity with the farmers true, and notwithstanding the fact that such argument mocks at history, the present author feels that there are at least two minimum conditions that need to be specifically put down as essential first steps in the laws as the way ahead from here:

One is that with the existing WUAs the irrigation departments across the States need to carry out time bound joint inspection of the irrigation canals followed by identification and execution of priority works for rehabilitation of the existing canal systems. This needs to be put down as an essential non-negotiable right of the WUAs because without these talking about their water rights is putting the cart before the horse. All the rights are located in a system and for rights to be effective the system needs to work. Secondly, to ensure that a fully functioning turned - over system maintains the water flow in it the minimum water entitlement of the WUA needs to be built in the laws so that a total volume of water is guaranteed to be supplied to a Water Users Association at agreed points of supply. If this is put down as part of the law water from the canal system shall be supplied to the Water Users' Association at various levels, from tail to head on bulk basis measured volumetrically as per their water entitlements. In fact the State of Maharashtra has already taken a lead in this regard in the recently enacted *Maharashtra Management of Irrigation System by Farmers Act 2005* by building in such water entitlements in the Act. There is no good reason - although there can be many excuses - as to why the other States can't follow the example.

VI. WATER SECTOR REFORMS IN URBAN AND RURAL CONTEXT

KAREN COELHO, THE SLOW ROAD TO THE PRIVATE: A CASE STUDY OF NEOLIBERAL WATER REFORMS IN CHENNAI

1. Introduction: Anomalies and Contradictions of Reform

A tragic conundrum of the turn of this century is that the changes so long awaited and demanded in our governing systems have appeared in the form of ‘reform’ – a term that serves as a euphemism for the unleashing of neoliberal orthodoxies across the spectrum of sectors and services. The term reform has come to index a politics of complicity between global commercial interests, international aid agencies, and national governments, aimed at transforming public resources into profitable enterprises. In the institutional arena, a reforming agency means one that has come under the financial and managerial disciplines of the commercial sector: the consensus on ‘best practice’ across sectors is one in which state agencies operate like profit-making businesses, firmly turning their backs on transfer-based or relief-oriented welfarism. This new order, then, spells an even greater alienation of public institutions from the public than was witnessed under bureaucratic regimes.

But reform of municipal water systems is tricky business in more ways than one. From a business perspective, these systems have scales of operation, capital intensity and tariff structures which are not easily amenable to commercialization and/or privatization. At a deeper level, the social, political and cultural contexts in which water as an element and water provision as a service are embedded pose a number of challenges to the project of commodification. Reform of the water sector inevitably, then, becomes mired in a set of contradictions and tensions in practice. The case of Chennai’s water utility, Metrowater is revealing. Its career of over twenty-five years on the path of reform has been marked by dilemmas and distortions that reveal the discrepancies between the stated goals of municipal water service reform (to ensure equitable, sustainable and efficient water distribution and management) and its methods (corporatisation, commercialisation and privatisation).¹

On the surface, Chennai’s Metrowater emerged by the early 2000s as among the most successful water utilities in India, and one of the most dynamic public infrastructure organizations in the city. In 2001 it was praised by the World Bank for achieving the principles of best practice widely held for water utilities around the world. In contrast to the huge deficits and government subsidy common in public sector utilities, Metrowater is a financially strong and viable organization: by 2001, it reported a surplus on its revenue account for the eighth continuous year, and had been operating without State government grants for over six years. Its capable performance allowed it to take over the running of water

¹ This article is based on research conducted from 2001 to 2003 for my dissertation on neoliberal reforms in Metrowater. See Karen Coelho, *Of Engineers, Rationalities And Rule: An Ethnography of Neoliberal Reform in an Urban Water Utility in South India*. (Ph.D. Dissertation, University of Arizona, Tucson: November 2004). I gratefully acknowledge the assistance of the American Institute of Indian Studies, the Foundation for Urban and Regional Studies, and the Richard Carley Hunt Fellowship of the Wenner Gren Foundation for Anthropological Research in making this work possible.

and sewerage systems for housing projects run by the Tamilnadu Housing Board, the Chennai Metropolitan Development Authority and the Slum Clearance Board. New townships and small municipalities on the edges of the city rely on Metrowater for technical guidance and/or contract with it to run their water and drainage systems.

Over the last decade-and-a-half, Metrowater has streamlined operations, frozen hires, instituted audits in a wide range of operational sectors, expanded its network and coverage to more parts of the city, modernized many of its systems, contracted out several components, and stayed on track with its Master Plan. It has made steady improvements in revenue collections and has become creditworthy in its own right (i.e. independent of government guarantees), as testified to by infrastructure lending institutions in the city. A senior executive of one of these lenders dubbed it 'a damned good borrower'.

Outside this circle of funders and investors, however, the image of the organisation and the service is far from rosy. By 2002-3, it was clear that water governance in the city was in serious crisis. As droughts accumulated, the approximately ten billion rupees (1000 crore) spent on infrastructure improvements and source augmentation efforts proved to have yielded meager results, and large sections of the middle classes stopped depending on Metrowater for their drinking water². The city's waterways remain perennially choked with untreated sewage, and the abundant rains of late 2005 brought disastrous floods, turning plenty into a problem. Meanwhile, the agency's endless search for supply-side solutions to meet the city's growing water needs grows increasingly more desperate. Following the failure of the expensive inter-basin transfer schemes during the drought of 2002-3, Metrowater began relying increasingly on groundwater extraction. Entrusted with protecting the region's groundwater resources, the agency emerged as the greatest culprit in depleting the aquifers of river basins near the city through highly unsustainable extraction over a decade.³ In 2001-2, when yields fell in its own deep borewells in the Araniyar-Kortalliyar basin (northwest of the city), the agency began purchasing water from farmers in the area. By late 2004, when Metrowater's extraction from private agricultural wells in the AK Basin reached about 100 million liters a day, crises erupted in the peri-urban areas.⁴

² Studies estimate that Metrowater provides only a small fraction of the total water demand in the city. While Metrowater claims that 98 percent of the city is covered with piped water supply, a survey conducted in 2003-2004 of over 1500 households in Chennai found that only a third of the city's water demand was met by Metrowater, while almost two thirds of the demand was supplied through private means such as consumer-owned borewells, tankers and packaged water (A.Vaidyanathan and J.Saravanan. 'Household Water Consumption in Chennai City: A Sample Survey, Centre for Science and Environment, 2005).

³ The Chennai Metropolitan Water Supply and Sewerage Act of 1978 vests the Board with all powers to 'control extraction, conservation and use of underground water in the Chennai Metropolitan Area'. In addition, the Chennai Metropolitan Groundwater Regulation Act of 1997, amended in 2002, identifies Metrowater as the Competent Authority for regulating groundwater extraction in the metropolitan area. However, the Act was never implemented and extraction remained entirely unregulated. A consultancy study commissioned by Metrowater in 2002 found that few, if any, licenses or permits had been issued since the Act was passed. It also found that the annual average extraction from the AK Basin Aquifer over the past 30 years was about four times the sustainable yield, resulting in progressive depletion of aquifer storage and saline intrusion extending to 15 km inland from the coast. (Scott Wilson Piesold, *The Reassessment of Ground Water Potential and Transferable Water Rights in the A-K Basin*. Inception Report on Phase II: January 2005).

⁴ Farmers, residents and women's organisations went on protests, claiming that the sale of water to Metrowater had depleted wells and damaged agriculture in the area. In 2004, farmers of Velliur gave an ultimatum to the Chennai Metrowater and to the water sellers of the village to stop pumping groundwater. When Metrowater failed to heed the request, 400 farmers took action in February 2005, breaking

How does reform play into these crises of water management? The reform paradigm guiding Metrowater is one of turning the water service into an industry responsive to consumer demand.⁵ Such a framework propels the agency toward exploitative and short-sighted handling of water resources, in direct contrast to its legal mandate to protect and promote the long-term sustainability of the resource. Revenue-enhancing supply-side investments are privileged over conservationist strategies.⁶ The reform slogans of transparency and accountability are conceived on a model of public relations, limited to complaint-response and consumer grievance-redressal measures. Not only does this serve as a substitute for genuine citizen consultation and information-sharing, it also absolves the agency from accountability to sections of citizens that do not fit the bill of revenue-paying consumers.

This paper outlines the context, provenance and character of reforms in Metrowater, demonstrating how they fit a hegemonic model of global ‘best practice’ in running infrastructure utilities. It outlines some of the effects produced by the reforms, including the ways that meanings are conscribed (e.g. ‘institutional strength’ now refers to success in commercializing operations), the organizational culture is transformed (audit and finance now dominate over engineering), and most importantly, subsidized or common-access components of the service are progressively marginalized.

Although senior engineers in Metrowater were able to speak about reforms in a much more coherent and fluent way than junior engineers, there were many different views within the organization on what the reforms were and when they were launched. For some, they referred to the technical improvements in infrastructure implemented under the Second Chennai Project starting in 1996. To others they referred to the changes in ‘public communication’ initiated in the late 1990s. However, a closer study revealed that all of these components were of a piece with a process of transformation set in motion over 25 years earlier. The package of reforms that would prepare the utility for eventual, if not immediate, privatisation, had its roots in the formation of the ‘progressive’ corporate-style parastatal in 1978.

2. Corporatisation: Cleansing the Water Service of ‘Politics’

How does municipal drinking water, traditionally the domain of local self-government, a field of struggle between local bureaucracy, city councilors and their constituencies, become shaped and steered by a global regime of discipline? In Metrowater’s case, the process was set in motion with the formation of the Board as an autonomous statutory body, removed from the jurisdiction of the Municipal Corporation and placed directly under a department of the State government. A divorce from local government was thus written into the constitution of the new organization. The Madras Metropolitan Water Supply and Sewerage

Metrowater’s pumping structures. Forty four farmers were arrested, kept under judicial custody for 15 days, and later released on bail.

5 Metrowater’s 1998-99 Annual Report boasts, ‘The Board is moving forward to reach a status of demand driven consumer oriented service provider.’ (p.51).

6 The latest proposal for augmenting supply to the city is a 100 mld. seawater desalination plant, proposed to be installed in Minjur, north of the city on a DBOOT (Design-Build-Own-Operate-Transfer) basis at a cost of Rs. 500 crore. This proposal has been severely criticized by citizens’ fora in Chennai on the grounds of its high installation and operating costs (water produced would cost about Rs.50 per 1000 litres), environmental impacts (primarily in the form of ‘marine desertification’) and the lack of transparency about how the water would be distributed. More crucially, they argued, Metrowater failed to first explore other, more sustainable long-term options such as treating and recycling waste water, regeneration tanks and lakes, and promoting reuse and conservation.

Board (MMWSSB) was created as the result of a major pre-investment study commissioned by the Government of Tamilnadu (GTN) and sponsored by the World Health Organization (WHO) and the United Nations Development Program (UNDP) in 1976, in response to the growing population and infrastructure needs of the city. The study comprised an engineering component which resulted in a 20-year water and sanitation Master Plan for the metropolitan area, and a component on Organization, Management and Finance (OMF), carried out by the multinational accountancy firm A. F. Ferguson in collaboration with the British firm Peat, Marwick, Mitchell and Co. The key recommendation of the OMF study was the establishment of a new autonomous board that would integrate under its jurisdiction the various scattered components of the city's water service. The Bill that would give statutory basis to the proposed Board was drafted by the consultants, introduced in the state legislature in January of 1978, approved in April, and enacted in June. Thus the birth of the organization was engineered largely by foreign consultants and *ad hoc* directors of the Board appointed by the State government.

The primary motive of this institutional innovation was autonomy, in particular financial autonomy: the power to manage, independently obtain, and invest funds, to set tariffs, and to contract with private parties.⁷ Also envisaged was substantial 'managerial autonomy, giving independence from short-term influences on its policy and finances'.⁸ The gendered character of the reforms is best captured in the language of the OMF report, which envisages the creation of an 'efficient *and virile* service,' the core of which would be a staff 'with the capacities and aptitudes needed to carry out the various duties of an expanding and modern water and sewerage undertaking'.⁹ The documents proposing and outlining the structural details of this new Board carried a celebratory tone: the creation of the Board was portrayed as a highly progressive step in the movement toward excellence in the water and drainage sector.

Many of the staff from relevant departments of the Municipal Corporation were inducted into the new utility. An expert was sent from the UK to identify organizational needs, and the consultancy document proposed that an expatriate training expert should set up a training school for technical upgrading of engineers. The restructured 'finance function' was to be 'responsible for guiding the new Board through a difficult period'.¹⁰ Fiscal imperatives were stressed from the start, and provided legitimation for all change.

The study recommended the formation of a Public Relations Committee and the launching of a full-scale public relations campaign aimed at 'attuning people to accepting that water is becoming a scarce and expensive commodity, thus providing a receptive climate for the

7 The pre-investment study concluded that the Municipal Corporation lacked a convincing image with creditors: 'the Corporation would have considerable difficulty convincing the financial institutions that it was the most suitable borrower of funds for the scale of expansion envisaged.' Interim Report on Organization, Management and Finance. September 1977. Study conducted by A.F.Ferguson and Co., Bombay, in association with Peat, Marwick, Mitchell and Co., London. Sponsored by World Health Organization (WHO), United Nations Development Program (UNDP and Government of Tamil Nadu (GTN). [hereafter OMF Interim Report]. p. 5.47.

8 Final Report on Organization, Management and Finance. August 1988. Study conducted by A.F.Ferguson and Co., Bombay, in association with Peat, Marwick, Mitchell and Co., London. [hereafter OMF Final Report]. p.5.50.

9 OMF Final Report p.11.14. Emphasis added.

10 *Id.* 8.35.

acceptance of inevitably higher tariffs...'.¹¹ The campaign was also supposed to prepare people to accept disciplinary cut-off action for non-payment.

The immediate upshot of the formation of the Board was the interest of the World Bank. In fact, the World Bank was already active in the wings before the organization was set up: the terms of reference for the pre-investment study required that its financial analysis follow World Bank requirements for project appraisal, and its draft report as well as the draft legislation for the formation of the Board were submitted to the Bank for review. This institutional transformation initiated the flow of funds for the agency, a flow that has continued ever since. As a retired senior engineer who had been active in the agency at the time recalled,

Even at the time of finalization of the Master Plan some aspects were picked up by World Bank for funding – the first time an international agency funds a project before the document is even complete! ... So what was a pre-investment study turned into a set of proposals for funding – a milestone in the development of the Board, wherein it crossed two stages in one step: one, the move from the city corporation to the Board, and two, the move of attracting the interest of funding agencies.

This moment of formation, then, brought Metrowater, directly and indirectly, into line with the orthodoxy of infrastructure sector reforms that was emerging in World-Bank funded projects since the mid-1970s and culminated in the Bank's influential report entitled *Infrastructure for Development* (World Development Report 1994). This report presented a general picture of failure in the predominantly state-run infrastructure utilities of the Third World, and attributed these failures to institutional, rather than economic, technological or even financial factors. It argued that infrastructure agencies in Third World countries had focused on investment at the expense of maintenance, resulting in massive under-utilized capacity, overstaffing, and inefficiency. The crux of the problem, it concluded, was that decisions were made on the basis of political expediency rather than sound utility-management principles.

The report identified three core instruments for reversing the failures of government utilities, short of privatizing them. These were: *corporatisation*, which 'establishes the quasi-independence of public entities and insulates [them] from non-commercial pressures and constraints,' a *pricing strategy* 'designed to ensure cost recovery, which creates a desirable form of financial independence for public utilities...', and contracts between governments and private entities, which 'increase autonomy and accountability...'¹² Thus, managerial and financial autonomy – in effect autonomy from the political ('non-commercial') sphere – and an unwavering focus on commercial viability were held as the touchstones of a good service. The role of government in this scheme was seen as regulatory, limited to setting policies and goals.

Recent phases of reforms have expanded and intensified these basic principles of corporatisation, commercialization and privatization. While Metrowater was an early reformer in India, by the late 1990s these thrusts had become part of the national discourse of

¹¹ OMF Interim Report. p.8.39.

¹² World Bank, *World Development Report: Infrastructure for Development*. (New York: Oxford University Press, 1994).

reform in the water sector.¹³ The National Water Policy of 2002 favours widespread private sector participation in the country's water management. The privatization agenda is promoted by a subtle conflation of the private sector with 'community' and 'civil society', all of these shown in opposition to 'the state.' This strategy was evident, for example, in Prime Minister Vajpayee's speech at the Fifth Meeting of the National Water Resources Council in 2002, in which he promoted the revised National Water Policy:

The policy should ... recognize that the community is the rightful custodian of water. Exclusive control by the government machinery, and the resultant mindset among the people that water management is the exclusive responsibility of the government, cannot help us to make the paradigm shift to that participative, essentially local management of water resources. ... Wherever feasible, public-private partnerships should be encouraged in such a manner that we can attract private investment in the development and management of water resources.

By 2001, the rationales of reform had been so successfully internalized within Metrowater that the majority of officials saw them as independently arising imperatives. As one middle-level engineer declared:

The state is bringing these reforms, they are not imposed! Yes, funding agencies require them because they want to be sure that their loans are repaid and that the public will benefit... (But) my perception is that reforms were necessary. ... Services run by the state traditionally have been subject to a lot of direct recruitments, pushed by politicians. So we have an unnecessarily large staff.

Some officials portrayed the reforms as a dialogic achievement, arising both from the need for funds and the need for change. As one engineer who had been involved with the studies that created the Board described it,

Reform was both internally and externally driven – external interest came from the pre-investment studies that were really internal documents, or internally motivated....

A funding agency like the WB would like to invest in a program which is self-sustaining, which arises only when the organization has financial autonomy. Before that, water was funded as any government program: it was a developmental program, one among many priorities of the state government. [Allocations] were not made on the basis of demand, but of resources available.

The Master Plan laid out the demand, the funds needed to meet it and suggested how, by raising tariff, this could be repaid. It introduced the concept that Metrowater could borrow and repay from tariff. Metro was one of the first among utilities in this country to think in terms of financial autonomy.

¹³ The Eighth Five Year Plan (1992-97) of the Government of India outlined a key principle for the sector: water being managed as a commodity and not a free service. This thrust was carried over into the Ninth Plan (1997-2002). The report of a national conference on reform in the water sector in India in 1999, outlining the principles of financial viability of services and a shift in the role of government from provider to facilitator, stated: 'The(se) principles ...shape a new paradigm in the implementation of water projects and require commitment from political, bureaucratic and civil society sectors' (Water and Sanitation Program, South Asia. 'Politicians for Reform: Proceedings of the State Water Ministers' workshop on rural water supply policy reforms in India.' in Politicians for Reform. Cochin, Kerala. December 1999).

Another engineer saw the reforms as part of a larger external push for change:

I don't think a government department can reform itself, they cannot simply change from within. ... There has been association with the World Bank, which has been responsible for some of the changes. Then there have been some dynamic officials. And also, with things like privatization, that came about because of the freeze on recruitment. It was generally felt that Metrowater was overstaffed. The World Bank has indicators for measuring productivity and Metrowater was found to be heavy on staff by those measures... So, reform is not something that can happen on its own, it has to be present in the country, in the society, there has to be a climate. I think it is a combination of things: the time was right, when Narasimha Rao and Manmohan Singh took it on – it was not just the World Bank.

But one engineer, who was openly critical of the direction of the reforms, attributed them squarely to donor conditionalities:

Reforms must be seen in a larger context – when you are looking at reforms in Metrowater, you have to recognize that they did not originate within Metrowater. They were imposed. ...Starting from the financial crisis in 1991, where we had to go to international lending agencies for support, we have been implementing these reforms. Why do we need this assistance? We have our own infrastructure, the materials, manpower, technical expertise... Part of the reforms are about institutional reengineering. It used to be taken for granted that the state serves the poor. Now they want to change that – tariff revision is part of that to pay for the increased investment. Metrowater's expenditure has increased from 20 or 30 crores at the start of the Board, to several thousands of crores now. They had to go to foreign lenders, who then imposed this organizational re-engineering. All the reforms you are talking about – public communications, public grievance redressal, etcetera -- all start from that point.

These varied perspectives within the organization on the role of conditionality in bringing about reforms was partly due to a process of negotiation between the Board and the Bank that produced the 'consensus' on Metrowater as a commercial entity. This process of negotiation was at least partly textual: a study of the documentary history of the organization reveals how local 'ownership' of the reforms was slowly organized, through a subtle shift in the World Bank Aide Memoires, from a language of conditionality ('items that are critical to satisfying the conditions of appraisal and negotiations') to that of shared agreement ('Discussions were held with the Government of Tamil Nadu and the Metroboard and an understanding was achieved of the importance of these measures and the reason for them'¹⁴ and back to one of mentorship ('Metrowater's proposals for reform should be completed by the time of appraisal so that the Bank may review it at that time').¹⁵

Metrowater's own documents are a study in apprenticeship, revealing the process through which the organization was steadily shaped by World Bank orthodoxies over the years since its inception. Its Annual Reports and project proposals increasingly reflect or echo the World Bank's Aide Memoires, Staff Appraisal Reports and other official commentaries, which in turn reflect the World Bank's more foundational document, the *Infrastructure for Development Report*. This report reads like a policy manual for reforms in Metrowater, so closely do the latter's discourse and actions adhere to its diagnoses and prescriptions.

¹⁴ World Bank *Preparation Mission Aide Memoire (December 5 1985)*, p. 2

¹⁵ *Id.* p.5.

Thus, the basic thrusts of reform in Metrowater – corporatisation, commercialization, and privatization – were set by the conditions of its formation over 25 years earlier. The consumer relations reforms introduced in the 1990s were simply extensions and elaborations of this move. As a middle-level engineer in Metrowater put it,

The first set were macro-improvements, the new changes are micro, in-depth reforms, operational reforms. For example, five to six years back the bill collector went to people's houses, now the Board feels the employment of these guys costs a lot, so they define it as the duty of citizens to go and pay their bills. An awakening has been created in the public, that payment of water charges is necessary. Another example: if you have a sewer block and approach your local Metrowater office to get it fixed, they will first check if your taxes and charges have been paid in full.

The next section elaborates on how the ongoing transformation of the service culture, from a welfarist to a commercial paradigm, is achieved.

3. Projects of Commodification and Commercialization

Like the commercialization of a government service, the commodification of water is not instantly accomplished. Not only does it pose complex economic and legal challenges¹⁶, it also calls for extraordinarily detailed work in the domains of discourse, language and daily practice. Water in India and in Tamilnadu, as in many places around the world, is a highly symbolic material, surrounded by thick systems of social and religious meaning, and located in rituals of gifting, exchange and rule.¹⁷ As Vandana Shiva puts it, one aspect of the 'water wars' raging around the globe is the 'paradigm war' – a conflict over how water is perceived, valued and treated: 'The culture of commodification is at war with diverse cultures of sharing, of receiving and giving water as a free gift.'¹⁸

The banner of 'scarcity', once a favoured prop of bureaucratic patronage systems¹⁹ is now a pennant of the movement for marketising water. In Chennai, with its heavy dependence on surface water sources and its unreliable monsoon patterns, water crises are both acute and chronic. However, given the political context within which the service is embedded, the push for market pricing of water as a solution to the problem of scarcity can only win limited acceptance. Solutions in India have thus tended to focus more on massive source-augmentation schemes, which raise the imperatives of attracting investment finance and hence of improving the financial viability of utilities. In Metrowater, then, the process of commodifying water proceeded concomitantly with -- and through -- the process of

¹⁶ In legal and economic terms, water remains notoriously hard to commoditize. Developing water markets is a challenging proposition due to 1. its character as a non-exclusive resource in piped systems (i.e. it is difficult to exclude individuals once they have entered the system), 2. difficulties in defining tradeable property rights in water; and 3. especially in the case of groundwater, difficulties in pricing (see Marcus Moench and S.Janakarajan, 'Water Markets, Commodity Chains and the Value of Water', MIDS Working Paper No.172, Madras Institute of Development Studies, June 2002).

¹⁷ See Vandana Shiva, *Water Wars: Privatization, Pollution and Profit*. (Cambridge, Mass: South End Press, 2002), David Mosse, *The Rule of Water: Statecraft, Ecology and Collective Action in South India*. (New Delhi: Oxford University Press, 2003), and Wendy Espeland, *The struggle for water : politics, rationality, and identity in the American Southwest*. (Chicago: University of Chicago Press, 1998).

¹⁸ See Shiva, note 17. p.x.

¹⁹ cf. P. Sainath, *Everybody Loves a Drought: Stories from India's Poorest Districts*. (New Delhi: Penguin, 1996).

commercializing the service itself. Two major projects were implicated in these processes: first, ‘institutional strengthening’ of the utility, using financial and management disciplines modeled on commercial organizations, and second, turning clients into consumers through attempts at tariff reform and full cost recovery from users. This section traces the organization’s efforts along these lines over the

25 years of its existence, as evidenced in policy documents and project proposals as well as in the discourses of senior agency officials.

The central thrust of reforms in Metrowater, since its inception, was on ‘institutional strengthening.’ Early World Bank Aide Memoires consistently foregrounded this component as one of the items on the ‘critical path to project appraisal’²⁰ A systematic conflation of ‘institutional strengthening’ with financial strengthening and commercialization of operations has been at work since the first preparation missions of the World Bank. ‘The goal of better and more efficient provision of water supply and wastewater services in Chennai requires, *by definition*, a financially strong Metrowater.’²¹ The Bank’s vision of Metrowater ‘exercising leadership in the water sector’ – a rationale for the Bank’s involvement with the organization – was also grounded on its achievement of commercial viability. The (Second Chennai) project’s ‘strong emphasis on strengthening Metrowater, enabling it to live up to its mandate to be a commercially viable entity’ would be achieved through ‘tariff increases and improvements in financial performance’²² and also through ‘increased worker and management productivity’ through the application of incentives and an improved, more creative organizational environment for leadership and competition to emerge’.²³

Also listed under the overall goal of institutional strengthening are goals to ‘ensure full cost recovery of Metrowater’s investment and operational costs,’ and to ‘improve the performance of Metrowater in key areas such as revenue mobilization and utilisation, ... commercial accounting, consumer education, and sector management.’²⁴

A major part of the commercialization of the service was the effort to build ‘management capability’ in the organization. In the late 1990s, three major consultancies were initiated to review the integrated functioning of the organization: one, an ‘Organization Re-engineering Study’ carried out by Osmania University; two, a ‘Twinning Consultancy’ with the Compagnie Generale des Eaux (GdE), a subsidiary of the French giant multinational water utility Vivendi, and three, a ‘Strategic Review of Institutional Options’ carried out by the multinational accounting firm, KPMG. The first was a diagnostic study of Metrowater’s corporate performance, recommending measures for capacity-building toward ‘a customer-oriented, demand-driven, financially sound and self reliant organization.’ The second consultancy aimed ‘to guide CMWSSB toward providing a commercially minded customer orientated service that will operate in an efficient and cost-effective manner’. The third study combined a study of institutional functioning with a wider consultation among stakeholders to involve them in deciding the levels of service they wanted and were willing to pay for. All three studies repeatedly reiterated the vision of an organization on its way to becoming a

20 World Bank. *Preparation Mission Aide Memoire (December 5 1985)* p.2.

21 World Bank. *Second Review Mission Aide Memoire (July 17 to August 2 1989)*. p.6. Emphasis added.

22 World Bank. *Preparation Mission Aide Memoire (March 2 1986)*.p.4.

23 *Id.* p.3.

24 *Id.* p.3.

commercially viable utility through the application of sound management principles. The proposal for the Twinning Arrangement, for example, claims that:

The main factors contributing to [Metrowater's] poor performance include poor institutional capability to effectively manage and operate its facilities, a lack of capable management and trained manpower, poor management information systems, and a general lack of commercial orientation in its operations.

The proposal strings together a set of tropes that have become familiar in these documents: 'performance' – 'capability' – 'effective' – 'management' – 'commercial'. There is a certain ritual quality to the vocabulary, an easy fluency in the deployment of terms that bring into being the 'New Organization'. The proposal goes on to list its objectives: '... to ensure that it is operated in the most efficient, cost-effective manner possible.' This conflating of efficiency and cost-effectiveness is another crucial plank of the ideology of reform. An official at the organization's training and resource centre explained how he facilitated shifts in the mindset of engineers toward what, borrowing from neoliberal discourse, he called 'leaner and meaner government:'

We introduce them to modern management techniques, sort of sugar coating the pill! We make them feel that what they do is good, only they can do it better. We get Human Resources experts from private firms – these people have analyzed systems thoroughly for working on a profit basis.

The Twinning Consultancy sought to improve operational efficiency by bringing to bear on the public utility the experience, disciplines and best practices of a private sector water utility using its 'experts in management, commercial and financial administration.' As a senior government official explained it,

The idea was to bring in exposure to international practices in running this service – through some handholding. To expose us to some private sector experiences, they are supposed to train us on various things, on attitudinal change, on public communication and public relations – that's the software part, and then to help with hardware aspects, such as refurbishing and leakage reduction. When I originally proposed this, I did not want a private sector company – I wanted a public sector to public sector twinning. But the World Bank got into the picture and they always want the private sector. I had originally wanted it to be with Singapore and Malaysia – when I visited their utilities, I found they were carrying out a lot of internal reforms. They have a public utility Board like ours. And I think the communication would have been easier – a lot of their documents are in Tamil, plus they are easy to travel to – a lot of our junior staff could have gone and worked there too!

But it's not bad having Vivendi – your stock goes up, having Vivendi as consultants!! But they have some problems bridging the cultural divide.

The Bank, apparently, also intervened in shaping the policy-making capabilities of the Metrowater Board in its early years. A World Bank Preparation Mission in 1985 expressed concern about:

the position of the board of directors of Metroboard (sic) related to transforming Metroboard into a commercially viable public utility. The mission is particularly concerned about this objective because to achieve it implies not only support of this objective by the board of directors but also working relations with the staff which

permit the staff the degree of managerial flexibility that is required for it to do its job. It is not uncommon in public utilities in other parts of the world for it to be prevented from carrying out its objective by well-intentioned but poorly informed board members.²⁵

According to the Bank, 'Further work with the Board will need to be carried out to assist them to further identify policy issues...'. The same mission then acknowledged that 'the project is bringing into sharper focus a policy agenda for the Board of Directors...'²⁶. The mission recommended a set of consultancy studies that would be presented to the Board members as policy briefs 'for their edification'.

An earlier mission in 1986 also commented on the absence of a Finance Director who would be 'responsible for the institutional objectives of the project', and feared that 'the financial and institutional strengthening components will suffer setback because of a lack of accountability for them placed at a proper level in the enterprise'.²⁷

The Chief Engineer [of the Project Preparation Unit set up to manage WB projects] is not shown reporting to the Financial Director but only to the Engineering Director... A balance must be struck between engineering objectives and the financial and institutional objectives of the project. Agreement was reached that this balance should be sought in this project and indeed within Metroboard itself...²⁸

By 2001, it appeared that the Bank's efforts at institutional capacity building had been successful at least in so far as large sections of senior personnel in Metrowater had internalized the disciplines of thinking and acting in a commercial way. As a senior official of the organization described it, 'Commercialising the organization has been very much on stream for more than ten years now: Metrowater has been functioning not like a government department but like a company for a while now!' Internal reformers, for instance, had begun to recognize the potential of organizational re-engineering to address the problems of waste in the system. A former head of the organization said:

I personally believe that there was enormous wastage in the system – not only of water, but of funds, of manpower, of resources of all kinds. ...I instituted systems of internal communication that were very systematic. Costing – I introduced costing in every activity – even an ad for a tender had to be costed. If a vehicle had to be purchased, we examined what the costs and benefits were.

Thus, by 2001, all spending was closely scrutinized for its potential returns, and engineers were routinely asked for a cost-benefit analysis on all budget requests. As a senior financial manager put it,

We made this mandatory, in a prescribed format. All proposals had to show what the benefit of the expenditure would be and the profit to be realized. Earlier we used to simply sanction funds without asking any questions, now we are more particular!

²⁵ World Bank. *Madras Metropolitan Water Supply and Sanitation Project. Brief on Policy Making. 16 July 1986.* pp.5-6.

²⁶ World Bank. *Preparation Mission Aide Memoire (March 2 1986).*

²⁷ *Id.* p.4.

²⁸ *Id.* p.7.

As part of the ongoing strengthening of financial and internal auditing functions, the Management Audit wing was set up in 2000. According to the Annual Report of 2000-1,

The Board made this an integral part of overall financial systems, with well-defined responsibility of the audit wing. Various concepts such as transaction audit, compliance audit of government rules and procedures, systems audit, management audit, energy audit, stores audit, etc., have been clearly defined and used as tools to enhance productivity.²⁹

The deployment of internal audit resulted in a significant streamlining of expenditures and in cost-cutting. The energy audit, for example, resulted in negotiations with the Electricity Board for lower rates on High Tension connections for pumping stations, based, ironically enough, on the claim that Metrowater was a non-commercial organization! Budget control was carried out on a monthly basis, as compared to annually or biannually before. Accounting practices were changed from location-based manual accounting, to activity-based accounting, wherein each activity was coded in the computer as a 'cost centre' or 'profit centre' and analyzed for its profitability. This 'unbundling,' the breaking down of integrated functions into units that lent themselves to easier commoditisation – such as sewerage, revenue collection, waste treatment, water distribution, etc. – is a classic strategy of commercialization. Each of these 'strategic business units' could then be turned into limited companies or confessional contracts or privatized. This strategy was not only advocated by the World Bank, but was a key recommendation of the KPMG consultancy study.

By 2001, as a result of vigorous audits, cost-saving drives and the accelerated trend of contracting out as many 'cost centres' as possible, expenditure on operations and maintenance, a category that yielded the most 'budget flexibility,' had declined both in absolute terms (Rs. 320 million in 2000-2001 compared to Rs. 394 million in 1990-91) and as a proportion of total expenditure (see graph) because of the huge increases in debt servicing and depreciation caused by the Second Chennai Project's large capital investments.

The agency, in public documents and in interviews, proudly proclaimed its success in reducing overall expenditures, but officials were more coy on the subject of cuts in Operations and Maintenance, preferring to use terms like 'tightening', 'streamlining', 'rationalizing'. A senior financial manager chose his language carefully in describing these measures to me:

There have been no cuts in spending on maintenance. What we did was streamline the process so that all proposals had financial and economic analysis.... On the whole there is no cost-cutting per se, only tightening of funds, especially on manpower. ... Operational expenditures are not restricted, but we are consciously reducing cost wherever possible, especially in the reduction of high-cost debt, and by privatization.

3.1 Organizational Relations

Inevitably, the transformation of the bureaucracy to a commercial entity called for changes in the culture of organizational relations. The new organizational chart drawn up on the recommendations of the pre-investment study in 1977 proposed designating the heads of engineering divisions as 'managers', e.g. Sewerage Operations Manager, Water Distribution

²⁹ Chennai Metropolitan Water Supply and Sewerage Board. Annual Report 2000-1. p.83.

Manager, etc. However, this project was never achieved: according to one informant, the engineers remained resistant to being called managers right up to the present.

While engineers strove to hold fast to their special identities and status in Metrowater, the winds of change were moving toward a dissolution of this engineering ethos, in favour of a stronger role for finance and auditing wings. Against the backdrop of a general freeze in recruitment in the agency, the Finance Wing hired several new personnel, many from the private sector. Its strength increased from one Controller of Finance (COF) and one Deputy COF (DCOF) in 1991, to five DCOFs, two internal auditors, and one CCOF (Chief Controller of Finance) in 2001. As one engineer bitterly commented, ‘We are becoming a financial organization!’

A key element of organisational restructuring was the larger role given to financial managers and auditors in the public sphere of the service, i.e. at the interface with clients. This marked a significant change in the culture of service delivery. A senior finance official noted:

Internal auditors now regularly make field visits. If a complaint comes about lack of water, it is not the engineer alone, there is involvement of finance and administrative people as well. This is recent ... We also have more say in the settlement of contracts, opening of tenders, etcetera. The views of the Finance Department are taken more these days.

A former head of the organization confessed that the centrality of engineering knowledge to the running of the service was being re-examined in recent years:

To be honest, I feel that this kind of work does not require a great knowledge of engineering – some simple knowledge is enough. There is this feeling that but for the engineers, the service cannot be run. But when we went into details of the different operations, we found that these were myths. There was quite a lot of resentment when other non-engineers were brought into decisions that were earlier the prerogative of the senior engineering staff. I opened up a lot of technical decisions to be reviewed by a mixed team, with financial people and managers also given a say. Many of the senior engineering staff began to feel a bit redundant.

For example, when it comes to the type of pipes – say we have about four options that may be suitable for our purpose. You have to think about what the goal is –do you want something that will last a hundred years, or an option that will be good for 30 years, and then the next generation can replace it if needed. So, sometimes cost accountants’ suggestions and recommendations were selected over those of engineers, and later the engineers also came to feel that the decision was a right one. But there was a lot of resentment still. In fact, I can tell you that the three and a half years of my tenure were full of turbulence – there was *dharna* after *dharna*, lots of protests....

The de-centering of engineering knowledge in the organization, then, was of a piece with the shortening of investment planning horizons with a view to cost-cutting. While the incorporation of financial managers and cost accountants into technical decision-making was presented as efforts toward a greater inclusiveness and integration in the organization, for the engineers these moves were not so benign. A repeated theme that surfaced throughout the study, voiced by engineers across the spectrum from seniors at the Head Office to those in the field, was the lowering of the collective morale of engineers in Metrowater, and the impacts of these moves on the service. A senior engineer said:

You asked about why the 16-zone project was not fulfilled according to plan – whether it was faulty design, or wrong data? *This* is the reason! Not taking the engineering perspective seriously! Cost-cutting in some cases is fine, but it often has wrong consequences! There have been many instances where projects are unsuccessful because the engineers are not listened to!

Field engineers were in agreement on this. As one said,

My opinion is that if proper preventive maintenance is done, we should not have any problem. The concept of preventive maintenance, unfortunately, is not properly understood by finance. Finance managers have to believe technical people, their analyses of the problems

The atmosphere of horizontal distrust across departments appeared to have spilled over to cause tensions in the vertical relationship between senior engineers and depot engineers. Junior engineer complained that the buck was invariably passed down the line to field officials, and that senior technical officers were afraid to speak out before the MD and other administrators, even on technical issues. There appeared to be a general reluctance among engineers to take responsibility for decisions in this climate of constraint and suspicion.

3.2 Citizens to Consumers: Toward Tariff Reform and Elimination of the Commons

The meanings of a ‘good service’ were increasingly associated in Metrowater with the creation of consumers. As Metrowater’s 2000-2001 Annual Report put it, ‘A sound tariff policy remains the backbone of any viable financial management system and also for (sic) improving the relationship of ‘consumers as the user’ (sic) and the Board as ‘service provider’.³⁰ Market-oriented reforms were adopted not only for pragmatic reasons, but as a spur to enhanced performance: ‘not because capital markets are the only sources for the volume of investments required, but because market-oriented financing increases efficiency in use of capital (and in) overall performance’.³¹ This section reviews the strategies deployed to produce consumers, particularly to separate the urban poor, who receive water free of charge, from the ambit of Metrowater’s services.

Key to the creation of the efficient and virile service was the removal of all subsidies. This was a consistent theme in World Bank Aide Memoires from the start. An initial step toward ‘full cost recovery’ was a shift in the funding relationship between Metrowater and the Government of Tamil Nadu. World Bank loans were channelled via the State government to Metrowater and were initially received by the latter as part grant and part loan. Bank missions since the early 1980s opposed this pattern and insistently pushed Metrowater toward eliminating the grant component and funding its projects through a combination of loan and internally raised revenues. The Board, while accepting full cost recovery as the ultimate objective in principle, could not comply immediately: ‘[F]or the present, the existing financing pattern of 50 percent loan and 50 percent grant will have to continue.’ By 1996, the goal was achieved: Metrowater stopped receiving grants from the government and was financially self-sufficient, with debt service forming almost 25 percent of its expenditure.

³⁰ CMWSSB *Annual Report 2000-2001*, p.85.

³¹ CMWSSB *Annual Report 1997-98*. p.45.

A second critical component of the project of full cost recovery was tariff reform. The pre-investment studies recommended that ‘Eventually the total capital and operating costs of the water and sewerage system have to be borne by the consumer through the tariff’.³² This principle was subjected to a stinging critique by a senior executive of an infrastructure financing institution in Chennai, as posing an unfair burden on the current generation of water users: ‘Since the benefits are not accruing only to the current users of the system, it is unfair to bill them in the way the [World] Bank and others are doing now. It is now fashionable to say that users have to pay. But this is nonsense! It’s an orthodoxy, and a nonsense orthodoxy! Theoretically, there is no case in economics – even a first year economics student will tell you that when there are externalities, you cannot price the entire thing on to the consumer.’

This ‘nonsense orthodoxy’ of ‘moving toward full-cost pricing of water services’ however, is one of the five key actions that the World Water Vision (a document of the World Water Council³³) identifies as necessary to achieve sustainable access of all people to safe and sufficient water. Given the increasing pressure on water resources, it is hard to dispute the need to re-examine the highly subsidized provision of water that has hitherto been the norm, especially since such subsidies tend to benefit wealthier people with access to piped water and storage facilities rather than the poor who rely on mobile sources often involving private providers. However, in the vast majority of cases, tariff reform occurs in preparation for, or as a concomitant of, privatization, and/or as part of donor-imposed reform conditionalities. The notion of costs also differs radically between private companies and the public sector. Government costs go to provide protected employment with living wages and benefits to large numbers of public sector staff, while private company costs include the salaries of multinational corporate bosses and shareholders profits. In 1986, a World Bank mission quoted findings from a consultancy study to suggest that Metrowater would need to raise average tariffs by 400 percent ‘to move toward commercial viability while at the same time maintaining affordability’³⁴

Once more, linguistic strategies were deployed to achieve specific discursive effects in the project of consumerisation: the term ‘equitable’ took on a new meaning in World Bank usage, referring to the removal of the cross-subsidy built into Metrowater’s tariff structure. The cross-subsidy kept domestic water rates low by charging high rates to industrial bulk consumers. A 1986 Bank mission wrote: ‘[The tariff reform study should] result in a structure which is administratively cost-effective, *equitable among all of the consumers*, and efficient from an economic point of view’.³⁵ The word appears again in an Aide Memoire in 1990 in the same context: the tariff study being proposed ‘should review the entire rate and cost structure of Metrowater to determine an *equitable* and reliable method of recovering

³² *Interim Report on Organization, Management and Finance (OMF)*. September 1977. Study conducted by A.F.Ferguson and Co., Bombay, in association with Peat, Marwick, Mitchell and Co., London.

³³ The World Water Council is a self-designated ‘multi-stakeholder platform’ on international water policy, founded in 1996 by, among others, the large multinational firm Suez Lyonnaise. Its membership includes over 300 private companies, including some of the world’s largest water corporations, as well as international financial institutions like the World Bank and government ministries.

³⁴ World Bank. *Preparation Mission Aide Memoire (March 2 1986)*.p.6.

³⁵ *Ibid.* p.2, emphasis added.

costs'.³⁶ As a result of these pressures, cross-subsidy from industry to domestic consumers was substantially reduced.

This specific meaning of equitability is strengthened by some marked silences in the Aide-Memoires. The urban poor are largely absent from the documents, although they are sometimes indirectly invoked through the term 'affordability,' or in discussion of service to the slums, as will be seen below. However, they are mentioned in a 1999 Aide Memoire under a section entitled 'Tariff Discrimination due to Cross Subsidies'. The Bank mission acknowledges that cross subsidization is 'often used for the purpose of helping the poor have access to the service', but contends that the 'outcome, almost without exception, is that the poor seldom benefit from these subsidies'.³⁷ They argue that 'many countries are fast abandoning this practice as they realize that there are better instruments to subsidize the poor.' None of these instruments are described; the document instead goes on to detail how price distortions can be gradually removed.

The creation of categories is critical to projects of commercialization and market formation. 'Unbundling' the service in Metrowater involved an attempt to create, apart from cost and profit centres, a clear distinction between consumers of the reformed service and the government's protégés, sections of the population that were supplied water free of charge through public fountains. This attempt dates from the pre-investment study, which, while recommending the integration of all aspects of the municipal water service, set up a separation between public fountains and the mainstream (piped) service, with the ultimate goal of removing the former from the responsibilities of the Board. The study recognized that 'traditionally, water supply and sanitation are treated as civic functions with particular reference to public health, safety and convenience' and are handled by municipal government.³⁸ But it also felt that the construction and maintenance of public fountains and public conveniences is essentially a civic function and should be discharged by local bodies. The MMWSSB as a commercial body should not be involved except to the extent of supplying water to the public fountains at a charge. Thus these assets should not be taken over by the Board. The Corporation and other local bodies should continue to own them ...[If the Board continues to supply water to the public fountains, the charges] should be paid for in full by the appropriate authority. Any subsidy required to enable poor people to receive an adequate supply of water should be provided through these bodies and not by the Board'.³⁹

Thus, service to the poor was to be excluded from the major institutional innovation expected to enhance the quality of the service. The draft bill excluded public fountains, public conveniences and stormwater drains from the ambit of the Board's operations. However, the Government of Tamilnadu, in reviewing the Bill, reinstated the care of public fountains under the Board.

³⁶ World Bank. *Proposed Second Madras Metropolitan Water Supply and Environmental Sanitation Project. Preparation Mission Aide Memoire (May 30 1990)*.p.10. Emphasis added.

³⁷ World Bank. *Proposed Third Chennai Metropolitan Water Supply and Sanitation Project. Preparation Mission Aide Memoire. (June 14 to July 1 1999)*.p.7

³⁸ Interim Report on Organization, Management and Finance (OMF). September 1977. Study conducted by A.F.Ferguson and Co., Bombay, in association with Peat, Marwick, Mitchell and Co., London. p.6.2.

³⁹ *Ibid*, pp.7.10 and 14.6.

The issue of service to the slums has remained a contentious theme in World Bank's relationship with Metrowater from the start. A 1986 mission pushed the organization to re-examine its responsibility for supplying water to the slums.

Whether MMC [the Madras Municipal Corporation] should be accountable for paying for water consumed by slum dwellers has not been resolved, resulting in bills being sent but payment not received...'.⁴⁰

The mission also insisted that:

The principle of cost recovery, even if indirectly recovered from MMC, should be sought from slum dwellers especially those occupying illegal land since they pay no taxes nor water charges.⁴¹

In 1989, the World Bank spelled out its opposition to the utility being directly involved in government schemes to provide water to the poor through unlevied public standpipes, especially as such involvement keeps Metrowater reliant on grants from the government.

The mission discussed the use of grants from the Government with MMWSSB, which pointed out that grants were used in part to cover the costs to MMWSSB of providing a social service at subsidized prices, such as the subsidized water provided through standpipes. The mission explained that the Bank's policy is not to reject the use of subsidies per se, but to require that such subsidies be transparent and explicit. Thus it would be better for MMWSSB to charge the public agencies a fair price (e.g. the actual cost) for standpipe supply, and for the GTN [Government of Tamilnadu] to pay for this service outright – either by paying in cash or by making an appropriate accounting adjustment (such as subtracting accounts payable from long term debt). This would assist the authorities in understanding and recognizing the cost of subsidizing.⁴²

Thus, while the Bank was 'not opposed to subsidies per se', it objected to the form in which they are given, a form that integrated all citizens into the domain of state service. Using the language of transparency and the discourse of 'recognising the true costs', the Bank sought to redefine the accountability of the state for water provision as a commercial accountability to consumers, and separate it from the government's accountability to the poor. This move to bring subsidies out into the open is also part of the World Bank's larger goal of separating 'politics' from the service.

By the late 1990s, Metrowater had adopted a policy of gradually eliminating public standpipes. The policy was never publicly announced, and circumstances made it difficult to implement. A senior engineer told me:

There has been a decision to not provide public standpipes in new areas that are being served... This was a decision taken internally by Metrowater in 1996 or so, because of the problems in maintaining these standpipes ... And also because the Board has turned toward revenue generation as the focus.

⁴⁰ World Bank. *Madras Metropolitan Water Supply and Sewerage Board. Preparation Mission Aide Memoire (March 2 1986)*,p.7.

⁴¹ *Id.* p.15.

⁴² World Bank. *Madras Metropolitan Water Supply and Sanitation Project. Review Mission (April 13-21 1989)*.

When I asked a senior engineer what would happen to people who could not afford private connections, he responded: ‘Yes, that is the dilemma Metrowater is dealing with now.’ I persisted: ‘But if the organization is committed to meeting the needs of the poor...?’ He countered:

Where is that written? Where do you find such a stated commitment? I can show you the charter of the Board and any other policy document, you will not find such a statement! It used to be part of the orientation, but now when the organization is trying to become commercial, this becomes a big dilemma. The charter says it will serve the citizen. But when the citizen is now being seen as the consumer, the basic assumption is that the relationship is one of paying for a service. This debate has been going on for a while – it will be resolved only when they recognize the basic distinction between the concept of citizen and of consumer.

The official then referred me to the Chief Controller of Finance for further clarification on this issue ‘because it is the financial side that controls this whole thing.’ A high-ranking official of the State government outlined the policy of eliminating public fountains as part of a more ambitious vision of promoting private water connections in the slums.

I am encouraging private water connections for two reasons. The environmental benefits of having a private toilet, which entails a private water connection, and second, the more private connections there are, the less I need to provide public standpipes. These public standpipes are all controlled by mafia fellows who extort money. And they generate no revenue at all. Besides, the advantages to the women of not having to wait for water, carry it, all of that – I have no doubt that she would be willing to pay for a connection.

I feel we have not marketed this idea enough. ...The political economy of water in slums is amazing. They already pay for water. Water is by no means coming free to them now! ... All are willing to pay for water, in some way or other. But Metrowater has not effectively marketed the concept of a private service. ... I really believe, if the quantities of water are sufficient, and it can be, then there is no reason not to give everybody a connection.

In the reformist visions of the state, then, faith in the potential for endless supply augmentation is combined with a discourse of ‘willingness to pay’ and an assessment of poor people’s capacity to pay, to portray universal private connections as a pro-poor solution. Yet, each of assumptions underlying this vision is specious: supply augmentation efforts are fast reaching the limits of sustainability, the vast majority of the urban poor in slums do not live in conditions that would encourage them to invest in private connections (even though they are compelled to pay for daily supplies of water), and the shifting constitution of the urban poor predicts a continued reliance on public facilities. Meanwhile, these visions of reform feed into a discourse that consigns public taps, the commons⁴³, to the margins of order and citizenship.

⁴³ In municipal water systems, public fountains are arguably a type of ‘commons’, despite the fact that they are not naturally occurring resources, but installed and supplied by the state. They constitute a public-access option for urban dwellers who lack private sources. In Chennai, public fountains are heavily relied on during drought periods even by people with private connections, as domestic pipes often receive no water in these periods.

In Metrowater, pressures to achieve full cost recovery and tariff reform have translated into punitive effects for clients as well as frontline service-providers. Field officials face sanctions if they fail to achieve ambitious revenue-collection targets; annual performance awards are based on success in meeting these targets; and clients are denied service until they meet all arrears, even if they have not received water for several months.

4. Privatization

Although outright privatization in the form of long-term concession contracts or disinvestment are not yet publicly on the cards in Chennai, the process of contracting out components of the service for maintenance and service on short- to medium-term term leases has become standard practice. All new installations, from sewage pumping stations to water treatment plants are now constructed on BOOT or DBOOT arrangements. Reforms in contracting systems in Metrowater since 1997 have moved the organization toward turnkey type contracts which favour single large contractors over the many small firms that the agency traditionally partnered with. Large contractors are considered to have the necessary equipment and to be more experienced and reliable. However middle-level engineers in Metrowater confessed that holding contractors accountable on the ground was often harder with large corporations like L&T than with small local firms.

Privatizing O&M depots, the nodes of direct services to the public, is regarded as a particularly challenging task, as these depots handle far more complex and sensitive functions (including micro-level allocation and distribution of water, policing irregularities in the grid, and public relations) than technical facilities such as treatment plants or pumping stations. In 2000, Metrowater initiated a pilot project of contracting an O&M depot to a small local private firm to manage. The cost savings to the agency were significant, and there are indications that more depots will be privatized.

But privatization of water has, according to a number of commentators in Chennai, been long underway in one way or another. Apart from the high and increasing reliance on private groundwater sources by individual households, more than a fourth of the city's households purchase packaged water for drinking, and about a fifth of the city's water supply comes from private suppliers that form a powerful lobby. Most commentators ascribe this situation to Metrowater's failure to manage water supply for the city. As a journalist who covered the city water beat said,

Who depends on Metrowater? ...They never ever managed to supply their own minimum target of 140 lpcd. [liters per capita daily] – the best they did was about 70 lpcd! Even in non-drought periods -- private parties have made inroads, this is not so easily reversible. ...The groundwater legislation of 1987 which prohibits commercial exploitation of groundwater has never been applied, except in the case of the East Coast Road! ... Metrowater does not want to enforce the law, because they cannot supply enough water themselves, so they have to let these people go ahead and supply!

The reform orthodoxy of full-cost recovery is linked to the agenda of privatizing water in ways that are not directly obvious. While cost-recovery is widely understood as the recuperation of the financial costs of treating and supplying water, the more radical long-term goal of reformers is to reach the full 'economic costs' of water. In this system, water will be valued according to its opportunity costs, which in turn will reflect its highest value across the spectrum of water use. In other words, the cost of drinking water to the average

consumer would reflect the price that industrialists would be willing to pay for it. Economic pricing is promoted as a means of reducing water consumption. The vision of global water policy, as articulated by the World Water Council, is of the development of ‘markets of transferable water rights’ and the reallocation of the limited resource to ‘high value users of water’ through ‘treating water as a tradable commodity.’ A World Bank Strategy paper foresees that ‘... in case after case reformed utilities... (will) push for market-based rules for facilitating the voluntary temporary or permanent transfer of water rights from low-value to high-value users.’

This brings us back to the links between municipal water reforms and the over-exploitation of the AK basin aquifers, outlined at the start of this paper. The practice of sucking resources out of rural hinterlands to cater to the ever-expanding urban appetite is now a globally recommended policy breakthrough, facilitated by the institution of ‘modern water rights’, which create markets in groundwater and permit individual farmers to profit from selling water commercially. This strategy fits into a larger ‘development’ vision of re-allocating water from low-end uses (like small-scale agriculture) to high-end uses (like urban growth). In 2002, Metrowater hired consultants to study the introduction of a system of tradeable water rights in the A.K.Basin, which would allow the organization to continue extraction of groundwater from these areas under a legal, ostensibly more controlled regime. The consultants’ report met with mass opposition at the public meeting called to present the draft. The revised report has not yet seen the light.

5. Conclusion

Reforms in Metrowater have not always moved as smoothly as the agency claims. Many observers who were involved with the agency in some form or other over the years commented that the basic goal of autonomy from political decisions had never been achieved – that all key decisions, like those on hires and tariffs remained under the control of the State government. In fact, tariffs were raised only once or twice since 1978, and have remained very much politically driven. In 2001, when the financially strapped State Government announced steep and unpopular hikes in a wide range of government services and provisions from bus fares to milk and rice, water charges remained untouched. As a senior executive of a lending institution put it,

The World Bank is (still) very unhappy with the current tariff structure of Metro. Now Metro has taken the exceptionally reasonable stand that: I cannot [raise tariffs] first of all in a drought year, and secondly, as long as I have a cash surplus, I see no reason to do tariff hikes for the fun of it! So get off my back!

He claimed that Metrowater could afford to say ‘get off my back’ because it did not need to go to the Bank for further loans. Meanwhile, the Vivendi consultants dubbed Metrowater ‘an unwilling client, or at least a reluctant one’ in terms of its amenability to new patterns of functioning:

Metrowater has been unable to go up the learning curve ...and consequently it faces a huge amount of learning in a short period of time in order to get the management systems they would need to face the future. There is a long way to go and a lot of learning to be achieved in the organization. The process of reorganization and privatization of such an organization is profoundly difficult, and was very painful even in the UK, a lot of people suffered, there was a lot of stress, but they ended up with a significantly better system.

However, the trajectory of reforms seemed to be clear to some senior officials in Metrowater, one of whom predicted:

Slowly [the agency] will be privatised. Mainly in the form of small contracts. They are not yet talking about it, this is just my guess. Already so much has been privatized... Our lower levels [of staff] are not aware, have not understood the transformations that are coming within Metrowater.

That he was right about the slow road to privatization was revealed by a senior government official in the water sector, who claimed that the process of setting up a regulatory authority was already secretly underway.

[But] it is happening quietly, because once you start talking about a regulatory authority, people know there is privatization in the offing, and all the shouting starts. There will be a huge debate the moment you announce the setting up of a regulatory body!

...So we are working at this, setting up the regulatory authority, simultaneously preparing ourselves for privatizing components that will benefit from the efficiencies brought by the private sector. The Twinning relationship is part of this effort.

Several senior officials in the water sector had serious misgivings about privatization as an option for water services in poor countries, based on their experiences with private contractors in the past. Many of them believed that water provision was a public service that could not be turned into a free market operation. Yet they also seemed to accept it as the inescapable destiny of such services, albeit one that the state could help to co-produce. The global orthodoxy of privatization as the route to better quality of service, and the pragmatics of the bottom line, overrode their misgivings about its potential threats to state sovereignty and accountability. The following comments from a senior government official reveal the continuity between the commercializing reforms in Metrowater and the larger agenda of privatization:

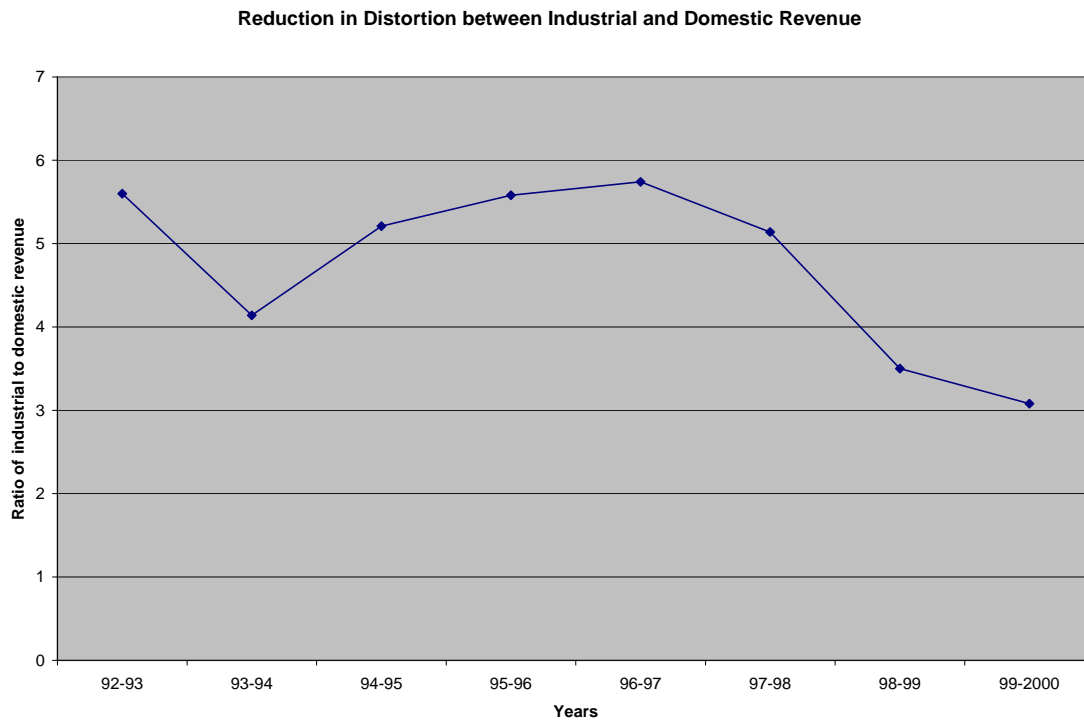
Ultimately the public don't care who supplies them the water as long as they get water... This system anyway is headed for extinction – these huge government-run utilities will die like dinosaurs, they are on their way out. We need to evolve a new creature, part public, part private, something that combines the strengths of the two. ... The bottom line is that we need to generate the resources to take the service to more people...The public sector is burdened with a long-established way of doing things, with a culture of all kinds of interference and claims...

We nationalized everything a few years ago, and now we are disinvesting. There was good reason then, and there is good reason now – these things keep moving and changing, one has to remain dynamic. Metrowater will die like a dinosaur! Government organizations cannot be lean and mean, so they will die. We need to evolve new ways of responding to the needs. That's why I say we need to hold hands and create a private sector that will meet our needs, a local private sector.

Reforms, then, appear to constitute, even for state officials, an inexorable and pre-determined evolutionary trajectory within which some limited creative options are possible.

Figure

1.



Source: Chennai Metropolitan Water Supply and Sewerage Board, *Annual Report 1999-2000*, p.55

PREETI SAMPAT, ‘SWA’-JAL-DHARA OR ‘PAY’-JAL-DHARA—SECURING THE RIGHT TO WATER IN RURAL INDIA

Role of the State and Sector Reforms

Over the past two decades of neoliberal policy, the role of the state has been seriously challenged and re-examined across the world. Heralded by the Thatcher-Reagan era, the reconstitution of democratic structures and processes that finds global dominance today has repercussions right down to the smallest political constituencies. The discourse on rights that has emerged in these times is perhaps a reflection of the insecurity caused by the ‘retreat’ of the State. As evidence shows, not the least of public divestments include provisions for and security of basic rights. The policy framework in place in a majority of the world today stands on the assumption of the ‘inefficiency’ and ‘failure’ of the State in securing development goals. According to the inherent logic of these policies, having spread itself large in the goal of development which it has failed to secure, thus proving itself ‘inefficient’ in most productive and service delivery functions, the state is now to make way for other bodies to secure these objectives. While its productive functions are to be taken over by private corporations (aka privatization); service delivery functions are to be taken over by other forms of private bodies.

While the people propagating this framework have convenient amnesia for the role of the State in industrializing and developing the North as much as South East Asia in recent times, the serious ramifications of this amnesia are experienced by people who are already socially, economically and politically marginalized. As some have pointed out, the struggle for democratic governance had not reached any progressive culmination when now the sleeves have to be rolled for saving the government! The decades of the seventies and eighties saw a mushrooming of NGOs in India as a result of the serious problems and limitations of government structures in securing development objectives, and this reason has now been co-opted to throw the baby out with the bathwater, so to speak. The role of the State is furiously contested in the South, and the forces that keep it in the arena of basic service provision and security are wielded, still, by the scores of people who need the State to carry out its welfare functions and it can be argued, vote for it to do so. Unfortunately, this view is not reflected by a dominant majority of policy makers. New policies pruning the role of the State are constantly trumped in policymaking arenas.

As the contestation for the State plays out, it takes its battle from policy drafting boards and project proposals to bureaucratic process and to the localities where schemes premised on them are sculpted. Thus we find, ‘good governance’ which implies a trimmed state, ‘people’s participation’ implying user committees, and ‘community ownership’ implying cost sharing principles, are all catch phrases in the idiom of mainstream development literature today that are frequently called upon to justify this paradigmatic shift from the State as a provider of basic services to a ‘facilitator’ that enables access to these services. Resources and services like water, energy, health and education—rights that the state is bound to secure for its citizens on the path of development—are now called socio-economic goods that people must own and maintain on their own. Increasingly in almost all service sectors—energy, health, education or water—‘demand-driven’ projects formulated and executed by ‘user committees’ that are supposed to establish ‘community ownership’ through initial cost-sharing with all operations and maintenance costs borne by the users. Added to this, establishment of independent regulatory commissions like those witnessed in the power sector mean that citizens can no longer hold the Indian State accountable for securing basic services for all

citizens. Ability to pay, in other words being a 'User' seems to be the new criteria for access to services in the economic logic of this paradigm shift. In effect, this implies privatization of resources and service provision through the divestment of state responsibility in its functions.

The redefinition of the role of the State takes two dimensions; the better known and hotly contested debate on privatization of public sector undertakings on the one hand and sectoral reform on the other. In this paper we are concerned with the latter specifically in the area of rural drinking water supply. It is worth noting that this significant aspect of the Paradigm Shift, compared to its other policy counterpart (privatization of PSUs) is being effected relatively quietly, though systematically, almost as if 'there is no alternative.' Consensus in effecting sector reforms, indeed, transparency in decision-making for sector reform policies is severely limited if non-existent. Flowing smoothly from a pre-existing (almost pre-historic!) dominant political culture of secrecy and silence, this is not the area of radical departure in the role of the State! (For detailed analyses on the role of the state in the neoliberal paradigm, see Bello, 2002; Edelman 1999; Sampat 2004; Sklair 2002; and Went 2000 to name a few).

An instrument that emerges from the Washington Consensus edict of structural adjustment, sectoral reform is one off the bag of policies that have become crucial for the nod of approval from the transnational bureaucracy, read World Bank (see Sampat 2004). Tried extensively in South America, despite wide spread criticisms of disenfranchising already marginalized people and further worsening conditions for common people, structural adjustment led sector reform is a common feature from the developing South to the Transition economies (see SAPRIN 2002 for an in-depth critique of structural adjustment policies) and indeed the North.

Water Sector Reform in India—An Overview

The Dublin Principles established the notion of water as an economic good in the international debate in the early nineties—Water has an economic value in all its competing uses and should be recognized as an economic good (Hoering and Schneider 2004). A joint World Bank and GoI review of water resources management in 1999 concluded that India faces an increasingly urgent situation with its finite and fragile water resources stressed and depleting while different sectoral demands grow rapidly and that a major challenge for India's water sector was to find solutions for competing inter-sectoral demands.

It further noted, 'fundamental reforms are needed now in India in how water is captured allocated between sectors, delivered to users and managed' (WB 1999b in James 2004). 'A comprehensive approach is needed, emphasizing four over-arching factors:

- **A shift from supply-driven to demand oriented approaches.**
- **Division of sectoral responsibilities between the government and non-government stakeholders**, recognizing that water is an economic good with both public and private good characteristics.
- **Decentralising decision-making** and explicitly including non-government stakeholders in service delivery, while re-orienting the role of government from being provider and financier of services to being facilitator and enabler.

- **Achieving financial viability of service delivery**, which will make the sector sustainable and make further development possible with private sector funding for investment activities’ (James 2004; emphasis in original).

The pre-requisites for this approach are some crucial changes—of the policy, legislative and regulatory framework; in institutional arrangements; and a setting up of an economic and financial incentive framework. In keeping with this rationale in April 1999 GoI initiated the Sector Reform Pilot Projects (SRPP) and the implicit strategy of these reforms was premised on the understanding that people will be willing to maintain and operate water supply schemes only if they *owned* the assets; had been involved in the projects *throughout* from choosing structures to installations and repairs; *know* that the government will *not* maintain the asset; had *sufficient* funds for maintenance and had to pay for operation and maintenance of the system. Even as the pilot projects in 67 districts were carried out, there was inadequate guidance for this change to government officials and the responsible officials were not even involved in conceptual and operational discussions and clarifications; NGOs were not involved in discussions; and inadequate capacity building for key implementers. Further, all members of village communities were not involved and the formation of committees and their takeover of O&M and finances did not constitute ‘community management’ and as found in a survey in Chittoor district of Andhra Pradesh, the poorest of the poor continued to be left out of management (Joshi 2004 in James 2004). Before these insights could be gleaned from the SRPP implementation experience, the GoI scaled up the SRPP into a country-wide programme of community managed water supply and sanitation called *Swajaldhara* (see James 2004 for a detailed account and analysis of the SRPP experience).

Swajaldhara—Genesis, Current Status and Questions From the Field

Premised on a demand-responsive approach where the community initially mobilizes 10% of the cost of the project demanded by it and the rest of the funds contributed by GoI, the Swajaldhara was launched on 25th December 2002. The community further has 100% responsibility of operation and maintenance (O&M) through the user committees set up for the same. An integrated service delivery mechanism is also envisaged which includes taking up conservation measures through rainwater harvesting and ground water recharge systems for sustained drinking water supply. So far 3 phases of Swajaldhara have commenced on the official understanding that these would achieve a high degree of participation and community control that would meet the needs of water for all (see GoI a; b; and c). Govt. of India releases funds in 2 installments and the schemes are expected to be completed in a period of two years.

Availability of drinking water has been in a critical state in Rajasthan for many years now. The past few years being consecutive drought years (4 in the last 5) have worsened the situation manifold. The stress is acute in the summer months with water becoming a source of frequent conflicts in villages and privileges of access to water including the tankers supplied by the state being drawn along caste, class and community lines. The burden on women and young girls is doubled, as they are the ones who traditionally fetch water for the household from the nearest source. Cattle also face this stress, which further deepens the crisis and adds to the larger livelihood crisis as cattle also weaken because of lack of fodder and rates for fodder are high in the summer months.

At the same time, adequate drinking water provision for people and livestock is the topmost stated priority of the State (see GoI d and GoR a). Water supply to about 91%(65 lacs) households is based on ground water sources and the remaining households depend on

surface waters of Indira Gandhi Canal or Bisalpur Dam or other surface water sources. Barring a few, most districts in Rajasthan are categorized as critical in the exploitation of their ground water resources or over exploited.

In 2004-2005 a total of Rs. 2544.25 lakhs was allocated to districts in Rajasthan under the Swajaldhara scheme of which Rs. 267.12 lakhs were allocated to Rajsamand district and Rs. 91.99 lakhs to Bhilwara district. As a result a number of Swajaldhara schemes are underway in the state as a whole and in the aforesaid districts. It is in this overall context that this study was undertaken to assess the impact of the Swajaldhara scheme in two districts of Central Rajasthan through a sample survey of 25 villages in Rajsamand and Bhilwara districts¹. Both these districts are critical in the number of ground water resources they have and are also both allocated funds under the Swajaldhara scheme (See GoR b).

While it is true that many of the new schemes are working on the ground and for the time being the people whose access to water has improved as a result of Swajaldhara, this survey has unearthed a set of fundamental questions that need to be dealt with on a priority basis if the right to drinking water for all is to be realized and this access is to be sustainable for those with access today, into the future.

Community Ownership and Participation—A principal premise of the Swajaldhara scheme is that community ownership and participation will emerge from the formation of village water and sanitation committees and further through raising community resources for the 10% mandatory community contribution. The official expectation is that a high degree of participation and community control might be achieved through this feature that would meet the needs of water for all.

We found that constitution of committees is arbitrary in most cases, depending on the favours of the local elite and apart from the few people who are the cohorts of the local elite, there is little knowledge of the existence of such committees with the general population. While such committees are to be formed in the gram sabhas, there is enough evidence that points to the reality of these gram sabhas being meetings in which the locally powerful manoeuvre the decision-making process. Understandably, being in favour of the elite seemed to uniformly determine the access to water for all members of a community within the vicinity of a project. For instance, in several villages, people who had a Swajaldhara connection did not even know the names or number of committee members and could only point to either the Sarpanch or a more politically savvy person in the village to help us identify the committee members. Little could be expected in terms of the accountability of the committee to the people. Even as people paid monthly charges for water supply, they had no idea where the money went and what was being done with it, leave alone the balance with the committee. Participation in its affairs was almost non-existent even in villages where at least a 25 percent household sample was interviewed.

The underlying assumption in the user committee approach seems to be that village communities are homogenous and do not have a local socio-political dynamic that actively informs how the resources that come into a village are used and that the mere formation of a committee does not guarantee participation in any way. This assumption would be naïve at best and irresponsible and convenient on the part of policy makers and project formulators. The benefits of this and in general any scheme in the village are generally

defined by this socio-political dynamic and often a nexus of local political elites and local officials guarantee that they are the beneficiaries of schemes and projects more than the people at large and specifically the already marginalized.

Access to water—Another basic underlying assumption is that cost sharing will enable participation and ownership. However a chief concern emerging from the study is that through the introduction of shared cost and water tariffs only those with adequate resources are able to access water while others may not. Thus, those that cannot afford to pay the initial cost and contribute to the cost-sharing are left to fetch water from older sources. In village after village we interviewed people who could not afford pay the initial costs or the recurring costs and they were also generally not allowed access to anyone else's connections since they had not contributed the initial cost.

As a result of caste equations still highly prevalent in the villages, the access to water is determined by caste hierarchies. Thus we found that in a Rajput dominated village dalits were forced to pay for the access to water under Swajaldhara despite a weak economic condition and inability to pay through threats. Other ramifications of the caste equations range from absence of Swajaldhara structures in dalit *bastis* to a general state of disrepair or are too few compared to the need of the population.

Further, if a person or family does not find favour with the committee president/ Sarpanch or another powerful member of the committee, then their access to water is also curtailed since they are not allowed to become members. This was volubly brought home in one village where one family was being denied a piped water connection even though the main supply pipe passed very close to their house, because they did not enjoy the favour of the Sarpanch.

Transparency, Information and Corruption—As mentioned above, little was known to people about the committee in most villages, leave alone the specifics of the project and the accounts of the committee. What was alarming was the near-complete lack of knowledge among the users regarding future costs that were to be borne for replacements at the end of the life of materials used for the project initially. Information about any schemes are generally among the elite and powerful and the whole process of development is highly skewed in their favour as a result, doing little to secure access and participation of the entire village community. People have little or no idea of the part of maintenance and operations costs and when this is revealed they often come up with the response that if the costs are high, they will ask the government and if no support comes from the government, the structure will collapse since they will not be able to meet long term costs of maintenance. This forces one to consider the question of the sustainability of the Swajaldhara projects.

The general lack of knowledge of committee accounts also provides a breeding ground for corruption where costs are inflated on paper and less materials or poor quality materials are used on the ground. Very few committee presidents actually revealed the accounts to the survey teams and most claimed that their accounts were either with the Secretary or had gone for audits. The experience of social audits conducted in villages across the country are testimony to this travesty of development and without a deliberate provision and action in this regard in the project formulation, this promises to be another scheme that serves as a source of income for locally powerful.

Willingness to pay and Ability to pay—People are willing to pay for these basic necessities if they feel that is the only way of availing them and that it would improve access, but that

does not necessarily reflect their ability to pay. It was found in the villages surveyed that the poorest were often not part of the user groups of Swajaldhara schemes and were fetching water from pre-existing sources precisely because of their inability to pay. Since they had not contributed to the cost of the project they were not allowed access to Swajaldhara sources by those who had. They also mentioned that their access to water would improve if the facility was provided to them free of cost. It was mostly the well off who could afford to pay the initial contribution. Additionally, depending on the amount to be paid upfront, some villagers also had to take loans for their contribution, increasing their burden of indebtedness.

Project cost over-runs—In a couple of villages the actual project costs had been over-run as a result of faulty initial designs. There is no provision in the Swajaldhara scheme for cost revisions and reassessments. As a result, the costs have fallen on the community and payments for these are pending to contractors, causing much distress all around.

Imposition of monthly fees—Every User has to pay a (generally) bi-monthly fee of approximately Rs. 60 or Rs. 90 in the villages surveyed. Where this figure has come from is unclear. Discussions with committee members reveal that any remaining balance from the collections is kept by the committee as maintenance costs but there is no clear social audit mechanism available to check what is being done with this money.

Water harvesting and integrated service delivery—Water harvesting structures and other service delivery mechanisms are not in place in any of the surveyed villages and people do not even know of any such provisions in the Swajaldhara scheme. Considering that there is a crying need for such structures in Rajasthan this lack in initiative, information and formulation is sorely missed.

General Conclusions and Points for Discussion

The application of user fees and shared cost of infrastructure may only ensure that one who has more money has more access to resources and this will worsen socio-economic inequities without the State acting even notionally as an unbiased protector of rights. While people's ownership and participation in decision-making processes are a must in ensuring access to resources, perhaps this form of participation was not the wisdom people's organizations were bringing to the discourse on development. In a country with as many poor, unemployed and underemployed people with little access to resources and information, it is important to acknowledge that demand-driven and cost-sharing features will do little to secure the right to water for all. In fact it can be argued that with so many people dependent on wage labour daily and almost never making even the minimum wage per day, imposition of costs for drinking water provision will lead to a violation of the right to water.

There seems to be a fundamental contradiction in the macro-policy formulation of the government. Majority government records point to a ready willingness and desire on the part of people and communities to pay for basic services and take charge of their operations and maintenance. Given that the number of BPL people in the country remain at 33%, that indicators show a worsening of employment trends and depletion of natural resources, it seems doubtful that people are willing to take the burden of cost sharing and maintenance of infrastructure for basic services like drinking water. On the one hand the Indian State has recognized the need for employment guarantee in rural areas to secure livelihoods and on the other it seeks to impose a greater burden on rural folk to meet basic necessities like drinking water, thus weakening the already meager benefit of 100 days employment for one member of a household in a year.

Given that there is a serious lack of information, transparency and participation in implementation, leave alone formulation, community ownership and participation are but a rare occurrence. While people's ownership and participation in decision-making processes are a must in ensuring access to resources, perhaps this form of cost-sharing participation was not the wisdom people's movements and organizations were bringing to the discourse on democratic development. Given that the number of BPL people in the country remain at 33%, that indicators show a worsening of employment trends and depletion of natural resources, it seems doubtful that people are willing or able to take the burden of cost sharing and maintenance of infrastructure for basic services like drinking water. The application of user fees and shared cost of infrastructure may only ensure that one who has more money gains more access to resources, doing little for the vision of development and worsening socio-economic inequities in the bargain. Even accountability of these committees to the larger village communities seems tenuous.

The local socio-political dynamic significantly affects any intended benefits that macro-policy initiatives envisage and if not made a crucial factor for consideration at the stage of policy and project formulation, it will only add to the distress of people who are already marginalized. In the path to development, perhaps it is not so much the role of the State that needs to be pruned as much as accountability and transparency measures that need to be built in every step of bureaucratic and legislative practice. A comprehensive dialogue with people living in villages reveals that distress from poverty is acute and measures need to be taken keeping in view the local socio-political dynamic and the inability of people to bear further financial burden. A large-scale appraisal of evidence from the ground on these features must be undertaken and any new schemes premised on these principles should be held until such an exercise is undertaken.

¹ The initial survey was undertaken in 15 villages—11 in Rajsamand district and 4 in Bhilwara—with the support of School for Democracy, and 5 MKSS activists and 10 Udaipur School of Social Work students participated in it. The second round was conducted in 10 villages of Bhilwara district and Philippe Cullet of IELRC also participated in it.

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VII. DRINKING WATER

MEENA PANICKAR, STATE RESPONSIBILITY IN THE DRINKING WATER SECTOR: AN OVERVIEW OF THE INDIAN SCENARIO

1. Introduction

The rights-discourse in the context of water highlights right to water and more particularly, the right to drinking water as an essential component of right to a 'dignified life'. This approach is reiterated in the international human rights instruments. The International Covenant on Economic, Social and Cultural Rights (ICESCR), 1966, specifically lays down an obligation on the member states for the progressive realization of this right. The General Comment No.15¹ encapsulates the right to drinking water as a priority item. India being a member state of ICESCR is obliged to gradually realize this right *vis-à-vis* its population. In the past two decades, more and more space has been devoted to the discussion on redefining the role of the State in the water sector reforms with special focus on public-private/ community participation in the drinking water supply.

The Five Year Plan documents and the National Sample Survey provide the official figures about the percentage of population, having access to drinking water in rural and urban India. The Planning Commission states that these figures are far from the ground realities, which means the situation is not as rosy as projected in the official circles². Traditionally water supply in India was limited to major towns and cities and that too was within the boundaries of state/provincial units. With the spread of the process of urbanization and declining public health standards in both urban and rural India, post-independent India took a serious initiative in the form of laws and policies.

A two-way approach is adopted by India, in this regard, viz:

1. Legislations focusing on water supply and at times on water supply and sanitation, to be driven by the state agencies
2. Policy initiatives by the central government in order to assist and supplement the states' activities with the overall objective of providing safe drinking water and thereby promoting public health.

¹ See General Comment No.15 on *Right to Water*, UN Doc.E/C.12/2002/11. Also see generally, *Realization of the Right to Drinking Water and Sanitation*, Report of the Special Rapporteur, El Hadji Guissé (Commission on Human Rights, Sub-Commission on the Promotion and Protection of Human Rights E/CN.4/Sub.2/2005/25; *Relationship between the enjoyment of economic, social and cultural rights and the promotion of the realization of the right to drinking water supply and sanitation*, Preliminary report submitted by Mr. El Hadji Guissé in pursuance of decision 2002/105 of the Commission on Human Rights and resolution 2001/2 of the Sub-Commission on the Promotion and Protection of Human Rights E/CN.4/Sub.2/2002/10; *Promotion of the Realization of the Right to Drinking Water and Sanitation*, Sub-Commission on Human Rights Resolution 2000/8.

² See Planning Commission of India, Tenth Five Year Plan Report (2002-2007), available at http://planningcommission.nic.in/plans/planrel/fiveyr/10th/volume2/v2_ch5_5.pdf.

In effect the relationship between the right to drinking water as a basic human right and the responsibility of the State for realization of the right in the Indian context faces some limitations. These limitations include the allocation of legislative power on water supply to the states within the Constitution; inadequacy of finance available at the disposal of states which is to be supplemented by the initiatives of the Central Government; and the administrative and financial autonomy, yet to be enjoyed by the local bodies in spite of powers been vested by the 73rd and 74th amendments to the Constitution of India. These limitations indicate a rather difficult way of effectuating drinking water right in India.

The Tenth Plan indicates the measures to be adopted for reforming the drinking water sector in India, which are: the need for people's participation; need to create awareness about the economic use of water; need for private actors' involvement; conservation of water resources; active integration of drinking water supply with sanitation programmes; filing of returns by *Panchayati Raj* Institutions³; constitution of village committees in charge of operation and maintenance of water works; and promotion of traditional methods of water conservation.

The present paper examines the performance of the obligation by Indian State in terms of universalizing access to drinking water to its population. The paper intends to portray that the Indian efforts to provide drinking water to its population show some serious policy shifts in the approach towards realization of the goal. In much of the post-independence years, India adopted a State-centric approach for securing the right for people or in other words, the State acted as the guardian of the people. From the 1990s, the Government realized the need for taking the end-users into account. With this objective, the policy documents began using expressions like 'economic use' of water; inculcating 'responsibility in users' by imposing charges; and 'responsibility' for the operation and maintenance of the services.⁴

The scheme of the paper is as follows: following the introduction, the paper highlights an *a priori* position accorded to drinking water by the legal system of India by reference to the provision for drinking water, as incorporated in different state legislations. It is examined whether this *a priori* status accorded to drinking water is effectively realized at the implementation level. In Part 3, the paper examines India's policy approach with respect to drinking water supply. Part 4 examines the people-oriented approach for securing the right as envisioned in the decentralization process, being implemented in the drinking water sector now. The paper is developed by and large on the basis of primary documents, namely, the official documents and supplemented by limited secondary sources. Since ample writings are available on constitutional safeguards for drinking water and how the Indian judiciary expanded the scope of Article 21 and thereby the right to water in general through an environmental and health prism, the present paper will avoid detailed discussions on those lines. Also, the paper avoids a strict urban/rural division in drinking water supply and approaches the topic generally.

2. Legal Framework for Drinking Water in India

The constitutional jurisprudence of the country developed by the judiciary has placed drinking water as a derivative right within the purview of right to life under Article

3 Since the Planning Commission feels that the reality of ground level data on rural water supply is not convincing, a re-survey is needed to be done by the PRIs and a return is to be filed periodically. This method of return filing, the Planning Commission desires, to be inserted as a condition precedent to the allocation of funds in future. *See* Tenth Planning Commission Report, note 2 above.

4 *See* Tenth Planning Commission Report, note 2 above.

21.⁵Whenever the shortage of drinking water was brought to the attention of the judicial bodies, their response reflected a deep concern about the issue in terms of basic human rights. This is evident from the observation by the court as given below:⁶

Water is a gift of nature. Human hand cannot be permitted to convert this bounty into a curse, an oppression. The primary use to which the water is put being drinking, it would be mocking the nature to force the people who live on the bank of a river to remain thirsty, whereas others incidentally placed in an advantageous position are allowed to use the water for non-drinking purposes.

Water and related subjects as per the Constitutional scheme is within the purview of the state except in the case of inter-state water disputes.⁷ This being the position, the Indian laws, which we examine for the purpose of the paper, are state laws. An evaluation of the water laws dealing with drinking water makes it clear that the legislations use the expression ‘water supply’ and place drinking water as a component of ‘water for domestic purposes’. In other words, the water supply legislations are meant for drinking and non-drinking purposes. A broad classification of the water supply laws could be laid down as follows:⁸

- Laws establishing water boards for Urban water supply
- Laws enacted for water supply in metropolitan cities
- Laws for water supply in the state as a whole
- Laws on regulation of groundwater extraction, use and transportation
- Laws on protection of water sources
- Laws for supply of water to specific industrial areas.

2.1 Characteristics of Water Supply Laws

2.1.1 DEFINITION

In the legislations on water supply, we find that the definition of ‘domestic purposes’ includes water for drinking. The common trend in these legislations is to use an exclusionary mode. For instance, the UP Water Supply and Sewerage Act, 1975(UP Act) defines water supply for domestic purposes as: those purposes excluding trade, or business; for gardens or

5 See S. Muralidhar, ‘The Right to Water: An Overview of the Indian Legal Regime’, in Eibe Riedel & Peter Rothen eds., *The Human Right to Water* 65-81 (Berlin: Berlines Wissenschafts-Verlag, 2006).

6 *Delhi Water Supply & Sewage Undertaking and Another v State of Haryana and Others* (1996) 2 SCC 572. In *F K Hussain v Union of India* AIR 1990 Ker. 321 and *Attakoya Thangal v Union of India* (1990)1KLT 550, the Kerala High Court held the right as part of Article 21. See also *Subhash Kumar v State of Bihar* AIR 1991 SC 420; *M C Mehta v Kamal Nath* (1997)1 SCC 388; *AP Pollution Control Board v M V Naidu and Others* (1999) 2 SCC 718; *State of Karnataka v State of Andhra Pradesh* 2000 (3) SCALE 505.

7 The Constitutional scheme on water is as follows: Water and land are assigned to the state under Article 246 and List II of the Seventh Schedule; water supplies, irrigation and canals, drainage and embankments, water storage and water power under Entry 17 of List II; article 243 G confers authority on the panchayati raj institutions; drinking water and minor irrigation under Eleventh Schedule, falling within the purview of PRIs.

8 The state laws referred to for the purpose of the study are provided in Table I.

irrigation purposes; for building purposes including construction of streets; for fountains, swimming baths, public baths or tanks or for any ornamental or mechanical purpose; for animals, where they are kept for sale or hire or for sale of their produce; for the consumption and use at a restaurant or by inmates of a hotel, boarding house or residential club; for the consumption and use by persons resorting to theatres and cinemas; for watering streets; or for washing vehicles where they are kept for sale or hire. Water supply is defined as a system of providing water to a community for meeting its requirement for drinking and other domestic uses, industry, recreation and various public uses.⁹

2.1.2 OBJECTIVE/S

The legislations are enacted with a single objective of providing and regulating water supply in the state¹⁰ or with a dual objective of water supply in the state and the setting up of corporations¹¹ or boards for the same. In the case of state laws establishing corporations or boards, these institutional arrangements possess the authority to set standards in the state with respect to water supply and sewerage services.¹² At times, the subordinate boards like the UP *Jal Sansthan* supplement these boards. The Kumaun Act aims at protection of water resources in public interest with a sustainable, conservation perspective.¹³

In the Assam Act¹⁴, the creation of an urban board for development, regulation and maintenance of water supply and sewerage services is stipulated. The legal personality of the Board is specified in Chapter VI wherein it is deemed to be a corporate body, having the status of a local authority. The KWA is considered as an autonomous body.

The Karnataka Act¹⁵ acknowledges the inefficient functioning of local authorities in charge of water supply and aims to improve the situation through the creation of a board, which will have the powers of monitoring various schemes and allocating financial resources *via* loans to the local bodies. However, the board's function is limited to the urban areas.

In India we find a state legislation, which focuses upon the regulation and control of water resources in the public interest. This is with respect to the Kumaun and Garhwal division. The Act¹⁶ in its preamble states that such a measure is needed to ensure rational distribution of water for the purpose of human and animal consumption, irrigation and industrial development. A study sponsored by the Planning Commission of India provides a narration

⁹ See UP Water Supply and Sewerage Act, 1975. Under the Kerala Water Authority (KWA), domestic purpose is specified as supply for households, residential flats, Government dispensary/clinic, Government schools (Government Hospitals), Orphanage/ poor homes.

¹⁰ Regulating water supply could mean regulating the supply for public, commercial or domestic purposes. See Section 3 of Jammu and Kashmir Water Supply Act, 1963.

¹¹ See the Preamble of the UP Act, note 9 above.

¹² See Chapter 2, UP Act, note 9 above. See also the functions and powers of the KWA.

¹³ See Section 4, Kumaun and Garhwal Water (Collection, Retention and Distribution) Act, 1975 (hereafter Kumaun Act). Under the section, the state has the power to regulate and control the collection; retention and distribution of any water and water resources demarcate the area for protection of water resources and declare the area as protected area.

¹⁴ See Urban Water Supply and Sewerage Board Act, 1985.

¹⁵ See Karnataka Urban Water Supply and Drainage Board Act, 1973.

¹⁶ See Kumaun Act, note 13 above.

about the background of the legislation.¹⁷ The study shows that the Act is an instance of gradual substitution of the rights of indigenous community with respect to the management of the water resources, including the drinking water supply with a formal state system. As per the study, the first Rules for the regulation of water resources - the Kumaon Water Rules - were framed under the Scheduled Districts Act of 1874, in 1917. The Rules of 1917 while retaining the state sovereignty over water resources recognized the customary rights since the British Government found it rational to do so in the absence of any potential for extensive commercial exploitation of water resources in the hills in comparison with the forest resources. The Water Rules of 1917 were modified in 1930 as Kumaon Water Rules of 1930 and there was no change in the law on water resources in the period from 1930 to 1975. During this period a significant extent of loss of forest cover, loss of people's access rights to forest, and the social tensions relating to forest resources occurred the impact of which was not taken seriously in official policy till 1975.

2.1.3 REGULATION OF SUPPLY

The supply of water is regulated depending on the purpose for which it is used. A protective umbrella is given to drinking water purposes. If the supply is meant for non-domestic purposes, the restriction or prohibitions apply from time to time. For example, Section 4 of the J & K Water Supply Act, 1963 stipulates that the license for water supply for purposes other than domestic, may be withdrawn if it is felt necessary to do so to sustain the supply for domestic purposes.

The regulatory mechanism envisaged by the Kumaun Act secures the objective by abolishing all the customary/community rights, which existed at the time of the enactment with respect to the use of water.¹⁸ However, the Act ensures a preferential treatment for village communities or persons whose rights are abolished while the state exercises the powers in terms of regulation and control.¹⁹

2.1.4 WATER CHARGES

All the water supply laws introduce the system of charges levied on water consumed whether for domestic or other purposes²⁰ (on the basis of meter or number of points installed from the main connecting pipe). However, there is a subsidized system for domestic consumption. The overall responsibility for meter repair, connections, pipes and other matters incidental to water supply is vested with the government.²¹ Some of the enactments stipulate that meters shall be installed at the expense of the consumer, though repairs are to be governed by the respective byelaws.²²

17 See Development Centre for Alternative Policies, Evaluation of Varied Approaches for Enabling Sustainable and Equitable Access to Drinking Water in Uttaranchal (Delhi: Development Centre for Alternative Policies, 2003).

18 Section 3 of the Act states that on and from 15 July 1975 all the existing rights (whether customary or otherwise and whether vested in any individual or in village communities) of use of water, if any, in the areas to which the Act extends, shall stand abolished. See the Kumaun Act, note 13 above.

19 See Kumaun Act, note 13 above.

20 Other purposes include non-domestic (except for industries), industrial (To supply water for manufacturing process which includes service stations, factories, Railways, Roadways, any other establishments where water is used as a raw material) or casual (fairs or any other special use) purposes.

21 See Section 13, Jammu and Kashmir Water Supply Act, 1963.

22 See UP Act, note 9 above, Section 69.

Under the Himachal Pradesh Act (HP Act), the water rate may be determined by the local authorities in those cases where the water supply schemes are handed over to them after payment of capital costs, maintenance and replacement costs.²³ In these situations the local authorities shall have the responsibility for efficient management of the schemes.

In the legislations the various divisions of supply include public, commercial and domestic purposes. The public stand posts erected and operated by the government are meant to provide free water. Hence no water charges are levied under some of the laws. But the KWA imposes the charge for street taps on the respective local authorities.

2.1.5 PERMIT/LICENCE SYSTEM

It is evident from the legislations that water supply is provided by the respective state authorities on the basis of the application submitted by the required party. It is processed after examining the purpose for which it is to be used and the quantity needed. However, as mentioned above, the non-domestic purposes are meant to be regulated strictly. This means domestic purposes receive a priority over other purposes. It is also clear that not every one in India is dependent on the water supply provided by the state. In the Assam Act, prior permission of the managing director of the Board is required for sinking tube wells in the urban areas.

2.1.6 STRATEGY FOR WATER SUPPLY

The supply of water is provided and regulated by the state authorities constituted for that purpose. As seen above, different state legislations work on different objectives. In states like Kerala, there is an overall authority, namely, the KWA²⁴ constituted under the Kerala Water Supply and Sewerage Act, 1986. The laws mandate that the authorities will not be responsible for the failure in supply due to repairing works or reasons beyond their control.²⁵ The legislations provide for advance notice to the public if the authorities apprehend a disruption in supply. In India we come across pictures of leaking pipes, resulting in wastage of water through distribution, which in turn is responsible for many of the open access pipes producing air than water through the outlets. The law seems to be more inclined to punish the violators²⁶ of the regulatory structure than fixing responsibility for inefficient supply, distribution and management of this basic utility. In the Jammu and Kashmir law, an overall immunity to the jurisdiction of the courts is given to the order annulled, modified or reversed by the Minister-in-Charge of Water Works Department with respect to water supply in the state.²⁷

The HP Act outlines a different scheme altogether. The Act distinguishes between the beneficiary and consumer. As per the Act, the beneficiary is a local authority, which derives benefit from a water supply scheme offered by the state. A consumer on the other hand means either a person who depends upon the beneficiary for water supply or who uses the water from a scheme fully managed by the government. It places the whole responsibility of launching drinking water supply schemes on the government. However, the Act stipulates

23 See Section 6, Himachal Pradesh Water Supply Act, 1968.

24 KWA is a successor to the Public Health Engineering Department, which was constituted under the Kerala Water Supply and Waste Water Ordinance in 1984. The Ordinance was replaced by the 1986 Act.

25 See Section 16, Kerala Water Supply and Sewerage Act, 1986.

26 Violators as per the provisions of law are limited to those who take connection for supply of water from water authorities, which in turn, include individual households, institutions and industries.

27 See Jammu and Kashmir Water Supply Act, 1963, Section 22.

that although the government will spend on the entire schemes and improvement of water supplies, a cost recovery mechanism has also to be implemented. Under Section 4 of the Act, the costs shall be recovered from the beneficiaries and consumers as the case may be, which shall be 25 % in the case of urban water supply schemes and 12.5% in the case of rural areas.

2.2 Objectives of Laws and Strategy for Implementation: A Performance Assessment

Studies are conducted in India about the performance of state water supply laws. A study of the water supply system of Tamil Nadu²⁸ serves as an indicator to the generality of the problems suffered by the state water supply agencies in India. Main highlights of the study hold the following as lacunae of the system in Tamil Nadu²⁹: inadequate supervision and monitoring; lack of skilled/trained operating staff; schemes not operating in their full efficiency; huge difference in the quality produced and distributed (known as Unaccounted For Water-UFW); visible leaks remain unattended for long; standby units in pumping plants, chlorinating units and other equipment remain under repair for long; many components of treatment plants not functioning for years; water meters not functioning right from inception; air valves and valve glands dripping and valve pits susceptible to flooding and pollution; no single individual having comprehensive information about the quantity of production, beneficiaries, reasons for non-supply, rate of flow, water level in tanks etc.; public tampering with water installations due to scarcity; officials not interested in placement of maintenance jobs; and non-payment of water charges by local bodies.

As suggested by Tiwari, the concept of water governance has wider meanings in wider contexts. In the water supply sector, governance shall mean efficiency and equity in distribution; delivery process transparent, accountable, participatory and responsive; empowerment of citizens and delegation of powers to enhance their welfare.³⁰ His survey results prefer management contracts as the delivery option and corporatisation as favoured by the consumers. Probably preferences indicated by the survey group has a base in the way of performance of water board constituted for the purpose of water supply. The causative factors of poor performance by state agency in Delhi tally with those mentioned in the Tamil Nadu study.³¹

An analysis of the functioning of the water boards/municipalities in the metros of Calcutta, Chennai, Delhi and Mumbai makes a comparison among the agencies and the findings of the study places the Chennai Metro Water Board on a high pedestal, even though it acknowledges that the latter agency is mostly structured around procedures, namely,

28 S Ramakrishnan, K N Chandran and P Gopalakrishnan, Improving the Efficiency and Functioning of Operation and Maintenance of CWSS Including Preventive Maintenance Upgradation of Existing Water Conveyance Systems Including GIS for the Existing Conveyance Systems, TWAD Technical Newsletter, January 2004, available at http://www.twadboard.com/photos/Newsletter_jan2004_chap7.pdf.

29 *Id.* at 54-6.

30 A P Tiwari, Choice and Performance of Water Supply Institutions: An Exploratory Study of the Stakeholder Preferences of Water Sector Reforms in Metro City of Delhi, India, available at http://agua.isf.es/semana_agua/CAST/wgrw/pon_presentadas/Doc7_APTiwari_2pag_xcara_a_dobre%20c ara.pdf.

31 Tiwari's study states: the non-market framework of providing these services has brought substantial inefficiencies in the system, high leakage rates, tampering with meters, theft of water and poor billing collection. In Delhi, the UFW is 40% compared to the acceptable norm at the global level of 10-15%. See Tiwari, note 30 above.

technical and administrative, and not about providing services.³² The study points out some deficiencies in the organizational settings and accountability of the agencies in the water supply sector. In Calcutta, there are neither volumetric charges nor charges on the basis of estimated consumption. The revenue is generated from a share of the property tax, which is known for low rate of collection and non-assessment of property value on a periodical basis. Water supply in Calcutta is provided by Calcutta Municipal Corporation while the provision for equipments and finance is the concern of Calcutta Metropolitan Development Authority and Calcutta Metropolitan Water Development Agency.

During the period 1994-5, the revenue department of Delhi had shown a figure of Rs.290 million as total arrears in the water supply sector. Delhi being the capital city faces serious problems of lack of coordination between the Delhi Water Board and a number of other nodal agencies involved in the development of Delhi like Slum Wing Department, National Capital Region Board, Delhi Development Authority, Delhi Pollution control Board, Central Groundwater Authority.³³ Above all, at times an intervention by the judiciary is needed for enabling Delhi to receive adequate supply of unpolluted water.

Mumbai Municipal Corporation is responsible for planning, building and management of water supply. However the financial allocation is routed through political inter-sectoral arbitration of the Corporation. Apart from a number of documentary requirements, an applicant has to pay an amount of Rs.3000-5000/- for water connection while it is Rs.2000/- in Chennai. At times a high amount of connection fee is charged in order to compensate for low tariff and insufficient revenues, which is facilitated by financial agencies like HUDCO.³⁴

The authorities envisaged in the water supply legislations are meant to strengthen the objectives for which the laws are enacted. These laws serve a miniscule section of the Indian population and water supply is in the hands of state agencies. However, any kind of supply of basic utilities constantly reminds us about the need for transparency and accountability. Even the autonomous water boards set up by the states to improve efficiency suffer from political nomination of members and lack of financial autonomy.

3. Policy Framework on Drinking Water in India

As mentioned in the beginning of the paper, the organized water supply in India was limited to the big towns and cities, which was at inadequate levels. For instance, Kerala for generations depended upon the open dug wells and ponds. It was only in 1914 that the first protected water supply system was initiated in Ernakulam town; and in Trivandrum, in the 1930s. More than 80% of the rural population did not have access to safe drinking water, which explains the deplorable conditions of public health as prevailed in the immediate days of independence of the country. The provincial governments depending on the financial resources at their disposal carried out the responsibility of water supply.

The water supply and sanitation were recommended priority areas by the Bhore Committee (1946) and the Environmental Committee (1949) with elaborate plans. Although no

32 Joel Ruet and Marie-Helene Zerah, Organizational Analysis of Water Boards/ Municipalities: Lessons from Calcutta, Chennai, Delhi and Mumbai (Paper presented at the Water Mangement Seminar, Centre de Sciences Humaines, 17 December 2002, Delhi).

33 See Ruet and Zerah, note 32 above.

34 See Ruet and Zerah, note 32 above.

immediate measures were adopted by the Central government, in the year 1954, it provided assistance to the states to establish special investigation divisions in the fourth Five Year Plan to carry out identification of the 'problem villages'.³⁵ The Accelerated Rural Water Supply Programme was introduced in 1972-73 by the Central Government keeping in mind the magnitude of the problem and to accelerate the pace of coverage of problem villages. The programme provided assistance to the states and the Union territories with 100% grants-in-aid to implement the schemes in such villages. This programme continued till 1973-74. But with the introduction of the Minimum Needs Programme (MNP) during the fifth five-year plan (1974-75) with the objective of socio-economic development of the community, it was withdrawn. The Programme was however, reintroduced in 1977-78 when the progress of supply of safe drinking water to identified problem villages under MNP was found to be not focusing enough on the problem villages.

There were international initiatives, which boosted India's striving towards providing 100% coverage of rural and urban population with safe drinking water. These initiatives include the WHO movement on health for all by the year 2000(1977), the Alma Ata Declaration on Public Health (1978) and the programmes which began as part of the international water supply and sanitation decade. The drinking water programmes were taken up with a 'mission approach', enriching them with scientific and technological input in order to ensure better performance with less cost. A Technology Mission(TM) was set up by the central Government in 1986 to assist the state in drinking water supply. The aim of the mission was to set up small projects and identify the causative factors for public health problems arising from drinking water sources in a scientific manner. TM has been renamed as the Rajiv Gandhi National Drinking Water Mission [RGNDWM] with the broad objective of providing sustainable safe drinking water to all 'uncovered'/ 'no source' villages and creating awareness among the rural people about the hazards of using unsafe water. The Department of Drinking Water Supply was created in the Ministry of Rural Development by the Central government, and is acknowledged as the nodal agency with the responsibility of providing safe drinking water to all rural habitations.

As regards the institutional structure for rural drinking water supply, the Ministry of Rural Development, Department of Drinking Water Supply, is responsible for planning, policy formulation, direction, financing, monitoring and reviewing the implementation and progress at the central level. The Ministry had set up the National Drinking Water Mission Authority with the Prime Minister as Chairman and an Empowered Committee headed by the Cabinet Secretary to review the progress of implementation of the programme. At the State level, the Public Health Engineering Departments, Panchayati Raj Departments, Water Boards, etc. are executing the Programme. However, in Gujarat, Kerala, Maharashtra, Tamil Nadu and Uttar Pradesh, the Programme is being executed through the Gujarat Water Supply and Sewerage Board, Kerala Water Authority, Maharashtra Jeevan Pradhikaran, Tamil Nadu Water Supply and Drainage Board and Uttar Pradesh Jal Nigam respectively. The institutional structure of rural water supply (of the Centre) in India is provided in Table II.

The Accelerated Urban Water Supply Programme (AUWSP) was introduced by the central Government in 1993-94 to cover towns having a population of less than 20,000 as per the 1991 census. In the rural sector the reformatory process was initiated with the sector reforms project and Swajaldhara. These programme areas reflect a change in the attitude of the

35 A 'problem' village was defined as one where no source of safe water is available, within a distance of 1.6 km or where is available at a depth more than 15 meters or water source has excess salinity, iron, fluorides and other toxic materials or where water is exposed to the risk of Cholera or Guinea Worm.

Government since the community involvement is the focal point. These programmes spell out the need for community participation in the choice of drinking water schemes, their planning, design and implementation and control of finances and management. These reformatory moves also seek for full ownership of drinking water assets by the community by contributing their shares. Apart from the policies, a number of externally aided projects have been completed or are in the process of completion in various urban areas. A list of completed projects has been given in Table III.

3.1 The Performance of States in the Rural Water Supply Sector

The Department of Drinking Water Supply has developed a system for monitoring and regulating the various programmes and schemes for the supply of drinking water. The reports of performance by states in this sector are discussed and reported in the agenda notes³⁶ of State Secretaries' Conference held in different parts of the country. These reports are prepared on the basis of the use of variables like the number of rural habitations (not covered, partially covered and fully covered) facilitated with drinking water supply; slipped back habitations³⁷; schools having drinking water supply; number of SC/ST population getting the benefit of the supply etc. However, it may be noted that women do not find mention among the variables though this group could have been a major contributor to and beneficiary of the schemes to be successful.

The Parliamentary Standing Committee on Rural Development for the year (2005-2006) in its Report to the Lok Sabha³⁸ after reviewing the reports on the states' performance sought the response of the Department of Drinking Water Supply (DDWS) on many crucial issues. Some of the main comments and observations of the Committee are:

- The DDWS projects a bright picture as opposed to the ground position on the availability of drinking water in the country. The achievements projected by the Department shall be realistic and accurately presented in the documents presented to the Government and the Committees.
- The mechanism of reporting adopted by the States is inappropriate since it fails to provide a reliable and convincing picture with regard to the accessibility and availability of drinking water. The States noted a gross mismatch between the physical and financial achievements. It could be seen that in some states the physical achievement is less than 50 per cent while in some others an inflated hike as much as 2320 per cent or 1300 per cent is shown.
- Some of the States are unable to contribute an equal amount of what is contributed by the central Government under ARWSP. The Committee failed to understand how the States as per the stipulated guidelines release the central allocation without ensuring equal allocation.

36 Agenda notes of the Conference of State Secretaries on Rural Drinking Water Supply and Total Sanitation Campaign (held on 8-9 September 2005 at Kolkata; 15-16 September 2005 at Delhi; 29-30 September 2005; 6-7 October 2005 at Chennai); and the Conference of State Ministers of Rural Drinking Water and Sanitation (held on 31 January-1 February 2006 at Delhi). (Documents on file with the author).

37 These are habitations which were fully covered habitations and slowly fallen into the category of not covered or partially covered habitations.

38 Ministry of Rural Development, Eleventh Report of the Standing Committee on Rural Development to the 14th Lok Sabha, 2005-06, available at <http://164.100.24.208/ls/committeeR/rural/11rep.pdf>.

- The Committee expressed its dissent to the Government proposal to replace ARWSP with Swajaldhara. It stated that these two are different schemes of drinking water and hence to be implemented separately. It is proposed to gradually introduce the reform process of community participation as part of ARWSP from the eleventh plan onwards.
- The Committee feels that each drop of drinking water is to be conserved. Hence the Department shall take a serious note of water conservation and management.
- Insufficient attention is paid by the Government to the suggestions by the Committee on treatment of used water and the subsequent supply for drinking purposes; and effective management of leakage of water from the pipes where the supply is through pipes.

3.2 An Appraisal of Policy Implementation: CAG Report

The Comptroller and Auditor General (CAG) of India in its 2002 Report stated that the water supply in terms of providing potable drinking water to all villages by 2004 is known for misplanning and negligence.³⁹ The picture is far from satisfactory despite spending an amount of Rs.32,302.21 crore on RWSP since the First Five Year Plan .

On reviewing the implementation of the rural water supply programme during the period 1992-1997 in Report No.3 of 1998 (Civil), the CAG observed deficiencies in planning, unscientific identification of water sources, re-emergence of problem villages/habitations, non-functional water treatment plants, expenditure on non-priority areas, incorrect reporting of financial achievements, diversion/misuse of funds, ineffective control, monitoring and review, excessive purchases of materials, etc. In their Action Taken Note submitted in February 1999, the Ministry had stated that all rural habitations would be provided drinking water by the end of the 9th Five-year Plan. It further stated that instructions had been issued to all States to ensure sustainability of the sources, regular monitoring of the functioning of hand pumps/tube wells, development of inventory of sources, and that recourse was not taken to diversion/misuse of funds and improvements in the monitoring and evaluation of the Programme.⁴⁰

Implementation of the programme during the period from 1997-98 to 2000-01 was again reviewed by the CAG through test checks conducted in the Ministry, Public Health Engineering Departments, Water Supply Boards and other implementing agencies in 185 districts and 306 divisions of 25 States between November 2000 and June 2001. The Major findings of the Report are as follows:

3.2.1 RE-EMERGENCE OF PROBLEM HABITATIONS

The Report pointed out 73,197 problem habitations as re-emerging in seven states, namely, Gujarat, Haryana, Karnataka, Maharashtra, Tamil Nadu, Tripura and West Bengal.⁴¹

39 See Comptroller and Auditor General of India, Report of the CAG on the Union Government (Civil): Performance Appraisals (2002), Chapter 3, available at http://cag.nic.in/reports/civil/2002_book3/chapter3.pdf.

40 *Id.* at 106.

41 *Id.* at 109-10.

3.2.2 NON-PRIORITISATION

The CAG noted that expenditure was incurred on non-priority areas by governments in many of the states while there were no source habitations or no safe source habitations. A sum of Rs.283.90 crores were reportedly spent on non-priority areas like the setting up of independent water works in places where there is no shortage of water supply while ignoring the localities with utterly no supply of water. In the period 1998-2001, UP Jal Nigam installed 21,607 hand pumps in 11 districts at a cost of Rs.44.96 crores while these districts possess 12,488 hand pumps and 3,61 PC and 45 NC habitations are left uncovered.⁴²

3.2.3 ABANDONED SCHEMES

A sample check revealed that in 19 states, the implementing agencies abandoned 2,371 schemes in the course of their execution after incurring an aggregate expenditure of Rs 197.52 crore, rendering the entire expenditure fruitless.⁴³ The reasons include drying up of water sources, failure of tube wells, wrong selection of sites, non-availability of land due to local people's resistance, non-construction of treatment plant etc, which basically show the ineffective planning.

3.2.4 RIGHT MANAGEMENT

131 rigs in 9 States [Assam (16), Andhra Pradesh (6), Gujarat (47), Jammu and Kashmir (16), Manipur (2), Meghalaya (1), Orissa (20), Tripura (7) and West Bengal (16)] were lying unused or were beyond economic repairs since 1996. In Orissa and West Bengal, Rs 15.68 crore was spent on drilling tube wells through private contractors while departmental rigs were underutilized. In Gujarat, of the 45,000 bores drilled during 1997-2000, 7,000 bores drilled at a total cost of Rs 10.16 crore failed due to wrong selection of sites based on the opinions of the MLAs and Sarpanches. The implementing agency had not utilized the available data of the Central Ground Water Board before selecting sites for drilling. As a result, the expenditure of Rs.3.86 crore had gone to waste.⁴⁴

3.2.5 SUSTAINABILITY OF WATER SOURCES

Twenty per cent of ARWSP funds were to be earmarked and utilized for addressing problems related to water quality and sustainability of sources. Sample check of records in various States, however, revealed that sites were selected without using satellite imagery, data of the Central Ground Water Board, scientific technology or taking advantage of the assistance of expert agencies like the National Remote Sensing Agency (NRSA) as was envisaged in the instructions of the Ministry. This contributed substantially to the failure of the schemes in Bihar and Jharkhand, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Mizoram, Nagaland, Orissa, and Sikkim.⁴⁵

3.2.6 OPERATION AND MAINTENANCE

Sample check of records in 13 States revealed that 85,301 hand pumps, 80,046 tube wells, 752 piped water schemes, 687 power pumps, 1,268 mini water schemes and 35 RWSS involving a total investment of Rs 369.20 crore were not functioning at all or were non-

42 *Id.* at 111.

43 *Id.* at 111

44 *Id.* at 112.

45 *Id.* at 113.

operational on account of various reasons such as drying up of sources, collapse of assemblies, lowering of water table, filling up of bore wells, blocks in pipes, failure of pumping machinery and distribution system, poor maintenance by local bodies and nonadoption of scientific technology for identification of sources, etc.⁴⁶

3.2.7 COMMUNITY PARTICIPATION

Under the Programme, the Central Government had sanctioned 58 pilot projects in 22 States at a cost of Rs 1,690.71 crore. The projects were sanctioned without conducting any initial survey of the willingness of the people for participation. Of the Central Government share of Rs 1,577.18 crore, Rs 473.15 crore had been released as of March 2001, against which an expenditure of only Rs 6.13 crore was incurred, indicating that the progress was very poor.⁴⁷

3.2.8 WOMEN'S PARTICIPATION

The guidelines of the programme envisaged the involvement of women for efficient performance and effective maintenance of water supply systems. At least 30 per cent of hand pump mistries under the National Human Resources Development and other training schemes were to be women of the local areas/habitations for better operation and maintenance of hand pump schemes. The guidelines also envisaged the engagement of women caretakers for hand pumps in the habitations and those certificates of completion of schemes should be obtained from women's groups in the habitations. Samples revealed that there was no involvement of women in Arunachal Pradesh, Assam, Sikkim, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Manipur, Nagaland, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal.⁴⁸

3.2.9 MONITORING

The monitoring, inspection and review of the Programme at the Central and State levels was inadequate, particularly in the context of ensuring the correctness of physical and financial achievements. Records in the Ministry did not reveal any evidence to indicate that achievement of the basic objective of providing 40 litres of water per day for each person on a sustainable basis was monitored.⁴⁹ Monitoring of the Programme was not done or was inadequate in Assam, Bihar and Jharkhand, Goa, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. In Karnataka, the high-level Committee appointed by the State Government met only once after its formation in January 2000. The Empowered Committee did not meet at all and the district level Committees were not constituted. Inspections were not scheduled in Meghalaya and not conducted in Jammu & Kashmir. The records of inspections that had been conducted were not maintained in Arunachal Pradesh, Gujarat, Himachal Pradesh, and Mizoram.⁵⁰

3.2.10 EVALUATION OF IMPACT ASSESSMENT

Evaluation of the Programme by different agencies on the basis of the parameters of adequacy, regularity, quality, distance, community participation, O&M, etc. revealed poor performance in the States of Andhra Pradesh, Rajasthan, Karnataka, Maharashtra, Madhya

46 *Id.* at 115.

47 *Id.* at 121.

48 *Id.* at 122.

49 *Id.* at 132.

50 *Id.* at 132.

Pradesh, Gujarat, West Bengal, and Bihar. Significant re-emergence of NC/PC habitations was also revealed in Karnataka, AP, UP, MP, Rajasthan and West Bengal due to the drying up of sources, failure of borewells, etc.

While addressing the conference organized by the RGNDWM,⁵¹ the Prime Minister stated that a recent comprehensive survey of national opinion revealed the centrality of access to drinking water for our people. When asked what would make respondents proud of India, about 73 per cent said that availability of safe drinking water to all our people would truly make them proud of being an Indian. The agenda of the Government for securing this basic demand of the people are: provision for uncovered habitations with supply at the earliest; address of the problem of the 2.8 lakh habitations which have slipped out of full coverage for a variety of reasons; and address the problem of poor quality of water supplied. It was pointed out that an important criticism of India's water infrastructure is that its growth has not been accompanied by an improvement in the quality of governance of water services. Development analysts have criticized the water sector policy as one of 'build – neglect and rebuild.'

The PM in his speech pointed out the five aspects of the agenda to be considered on a priority basis. These are, eliminating the backlog and providing safe water to all remaining habitations which are either uncovered or have slipped back from full coverage; addressing problems of water quality; entrusting the responsibility of water supply management to local institutions and building their capacity in the management of water supply; improving comprehensive management of water supply by strengthening the management of our environment; and mobilizing communities to spread awareness of the linkage between good health and safe water supply.

From the above discussion it may be clear that the policy implementation in the country with respect to safe drinking water supply suffers from serious deficiencies. It is also important to note that the responsible authorities like the Parliamentary Standing Committee, the CAG and the Prime Minister himself highlight these deficiencies. Therefore, it may be safely concluded that State responsibility in terms of providing access to drinking water is not fulfilled successfully due to the undermining factors in the implementation stage. One vital factor, which needs deep scrutiny, is the accountability of the state agencies for failure to perform due to their own bad governance. It is not clear whether the law has an effective mechanism to address the mismanagement and the consequent failure of the grandiose schemes run by the state agencies.

4. Decentralization Measures in the Drinking Water Sector

In the preceding portions we have come across the way in which the Indian State tried to perform its obligation to provide drinking water arrangements. In the recent years India developed a twist in its strategy from state as the service provider to state as the facilitator. This facilitating role envisages more decentralization of the drinking water sector. The shift from a supply-based approach to demand-driven strategy seeks for community participation. The externally funded water supply and sanitation projects speak about public-private participation.

51 Prime Minister's Speech, 31 January 2006, available at <http://pmindia.nic.in/speech/content.asp?id=271#>.

Critiques argue that though the Indian model of decentralization fulfills the modalities of administrative decentralization, it lacks fiscal and political decentralization.⁵² The National Commission on Urbanization observed how water supply system was unequal, unjust, and highly biased in favour of the rich. It is observed that the ‘social construction of power structure’ makes water ‘artificially scarce’ for the poor.⁵³ What we could perceive of, as a viable strategy could be democratic decentralization. It implies more than the downward delegation of authority. It entails a system of governance in which citizens possess the right to hold local public officials to account through the use of elections, grievance meetings and other democratic means.⁵⁴

Thus we are at a particular juncture in drinking water sector reforms wherein a role dominated and performed by the State is now expected to be discharged by the community and private actors. Although the people centered approach is a welcome step for the success of water supply and sanitation programmes, it is not clear whether we need to continue with a top-down approach than the bottom-up mode. The Government began the exercise of imparting training to local bodies about the need for conserving the water sources, know-how about the operation and maintenance of water works etc. In comparison with the proposed strategy of the Government for involvement of users, the paper argues for decentralization and democratization from below. It is pertinent to see how this process can be effectuated? Some important case studies have been reported from the different parts of the country about people participation in the supply of drinking water. In one study conducted in Gujarat, the survey indicates popular awareness about water supply schemes in the locality, water charges and the responsibilities of the users. The survey reports that gram sabha is considered as the ideal local institution in which people express their faith. However, low participation and poor management at the village level is attributed to lack of time or improper timing of the meetings held by the gram sabha, literacy levels and other factors. Women were not part of these deliberations. The survey indicated a preference for village level self-sufficiency.

While evaluating the state performance in the drinking water sector, Kerala has been pointed out as having shown a dismal performance the reasons for which are: an unacceptable top down approach to planning, non- involvement of the users, highly inadequate levels of cost recovery, depletion of sources due to overdraw, frequent breakdowns due to poor operation & maintenance, etc.⁵⁵ The Kerala Rural Water Supply and Sanitation Project (*Jalanidhi*) is designed and implemented by the users themselves as against the ‘top-down approach’. This will be owned, operated and maintained by the users themselves on a total cost-recovery basis. The survey by the authors is limited to one of the project areas. Among the people surveyed, only a few know that it is the government, which has to refund the money borrowed from the World Bank. But everybody is unaware as to the period of repayment and the rate of interest. As many as 217 beneficiaries justified the act of seeking foreign money, since it is a problem of drinking water.⁵⁶ The low level of knowledge of the project among

52 For more conceptual discussion, See Craig Johnson, *Decentralisation in India: Poverty, Politics and Panchayati Raj* 4-5 (London: Overseas Development Institute, 2003).

53 See Samanta Sahu and Rajashree Padhi, *Access to Drinking Water in India: State and Market Interventions* (Paper presented in the National Institute of Rural Development (NIRD) Foundation Day Seminar on Democratization of Water held on 10-11 November 2006, Hyderabad).

54 Johnson, note 52 above.

55 See T M Joseph and Jos Chathukulam, *State- Society Partnership in Drinking Water Management: the Case of Jalnidhi Project in Kerala* (Paper presented in the National Institute of Rural Development (NIRD) Foundation Day Seminar on Democratisation of Water held on 10-11 November 2006, Hyderabad).

56 See Joseph and Chathukulam, note 55 above.

the beneficiaries again indicates that the project could achieve only limited success in activating the rural community.

There is a wide divergence between the perception of the beneficiaries about the role of the *panchayat* and its assigned role. The people lend legitimacy and credibility to the institution of Panchayat. However, the *panchayat's* role is limited just to select the Support Organizations (SO) from the list of SOs approved by the state government and provide 10% financial assistance to the project. It has no control over the SO in the process of designing and implementing the project. At the same time, all complaints against the SO are to be settled by the *panchayat*. Authors argue that this dichotomy was not visualized in the *jalanidhi* project. According to them, the SO on the other hand, takes this opportunity to exert their authority over the beneficiaries. Having bestowed with technical knowledge and expertise, they tend to ignore the indigenous knowledge and wisdom of the local people.⁵⁷

A similar outcome is shown in the public/private participation study about water supply in Tirupur.⁵⁸ The study acknowledges that public-private Partnership (PPP) could be a way to utilize the best of both worlds, while overcoming the specific weakness of each. However the study point out that it is difficult to appreciate PPP from human rights lens of water as a public entitlement, access to which does not depend on one's ability to pay. Charging for water 'viewing water as a resource' raises questions such as water right. Charging for water so as to 'recover capital cost incurred in constructing the facilities' is generally viewed wrong because in a welfare state it is a state obligation. There is a general acceptance for charging the Operation and Maintenance costs and there are some Village Panchayats in Tamil Nadu that has the practice of collecting user charges from house service connection (HSC) holders. It is a responsibility the local body is supposed to carry out with the support of the user community.

It is worth noting that in the decentralization and community participation debate, an important factor overlooked is that traditionally drinking water supply systems were effectively managed by communities in India. For instance, in Uttaranchal State, informal institutional networks involved in the use-management of all natural resources, including water. These village institutional frameworks have been responsible for the creation and management of hundreds of thousands of drinking water systems [naulas, and bauries], about 16000 traditional irrigation systems or guls, and 50,000 gharats or water mills.⁵⁹ However, the passing of the 1975 legislation brought water resources and structures under state administration. Data provided by the Kumaon Jal Sansthan indicates that even according to conservative estimates, 45 percent of the total systems constructed are non-functional due to widespread damages. A further 20% are only partially functional. The Kumaon Jal Sansthan reports a total breakdown of 1022 rural drinking water systems, resulting in the loss of several hundred crores of rupees of investment on them.⁶⁰

57 See Joseph and Chathukulam, note 55 above.

58 See generally G Palanithurai and R Ramesh, Public Private Partnership in Drinking Water Supply: Empirical Enquiry Conducted on Globalization and Decentralization in Tamil Nadu (Paper presented in the National Institute of Rural Development (NIRD) Foundation Day Seminar on Democratization of Water held on 10-11 November 2006, Hyderabad).

59 See Development Centre for Alternative Policies, note 17 above.

60 See Development Centre for Alternative Policies, note 17 above.

5. Conclusions

The aforesaid discussions highlight the changing nature of responsibility of the state with respect to drinking water supply. This changing phase may be a difficult proposition for the average Indian mindset that still believes in an omnipotent role of the state in the basic utilities sector. Our analysis of the water supply laws show that most of these legislations were enacted at a time when state was perceived as predominant actor in the public sphere. These specific water supply laws are characterized by some limitations as follows:

*Water supply is limited to the connections on the basis of applications, be it the household or industry;

*State as the service provider regulates the supply and connections;

*Charges are levied from the subscribers;

*Individual households dependent on the connections, by and large are limited to towns and cities;

*Laws focus more on offences by the subscribers while no accountability language is deployed with reference to state authorities.

*Above all, inefficiency is and its root causes did not receive serious remedial measures.

The drinking water policies focused in the study are mainly those, which are initiated at the central level. The operation of a number of policies simultaneously by different agencies raises the issue of coordination among them and the generation of conflicting data on the status of access to drinking water. As pointed out earlier, policies are on the lines of constitutional goals and hence there are fewer interfaces between the water supply laws and policies.

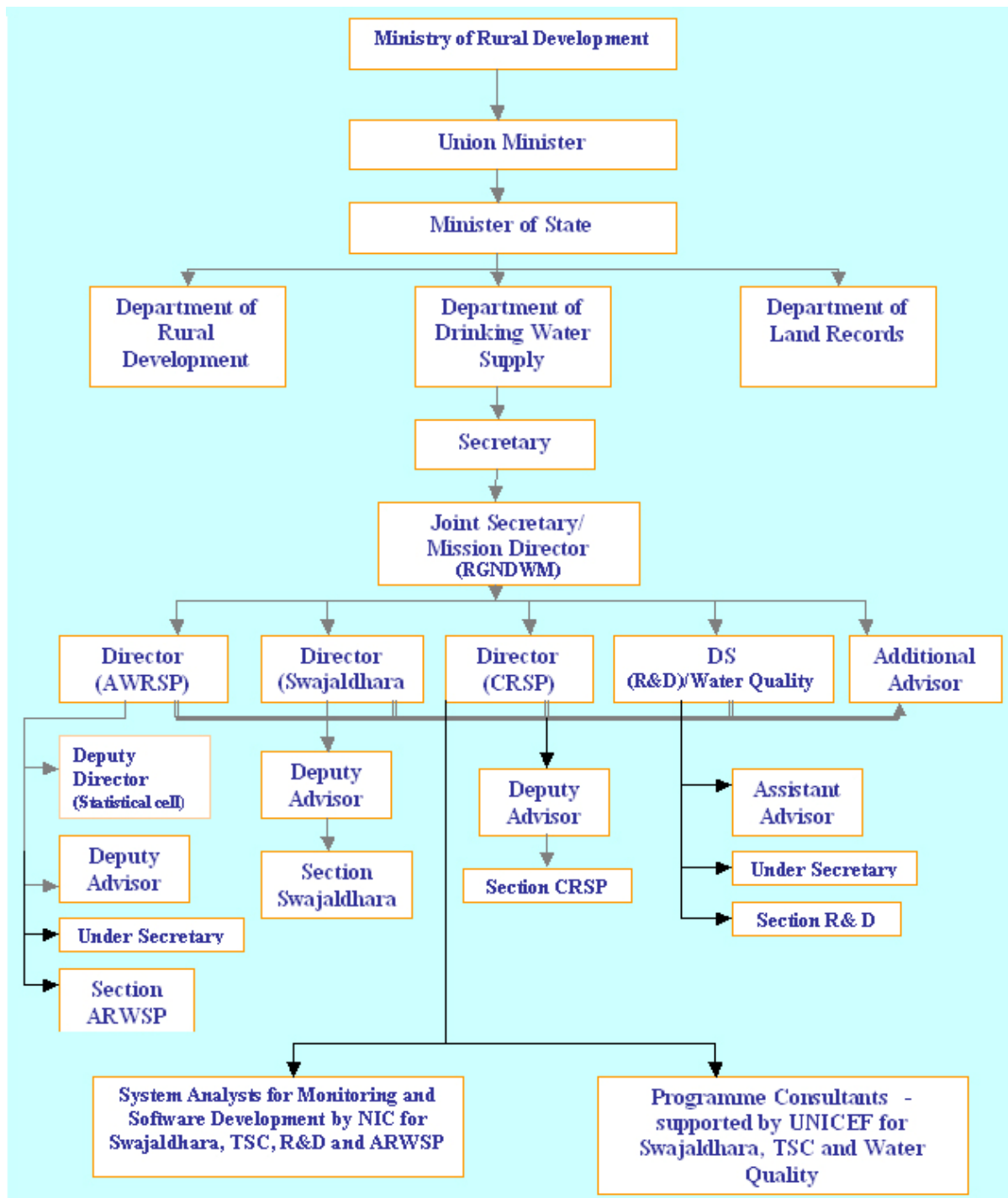
In a vast country like India it may be a utopian idea to evolve uniform strategy for drinking water supply. By and large it is clear that users' are to have definite role in decision-making and implementation. It is necessary to incorporate the existing models of people's participation, if any, in the decentralization package. However, this people-oriented approach is at variance with the one suggested by the Government in terms of the users bearing the costs incurred capital costs, operation and maintenance of water supply etc. Where do the interests of the society find any mention or reflection? This point is vital to be examined at least in the future law/policy making to deviate from the time-old paternalistic role of the state where the ward has no voice or his/her voice is unheard. The engineered solutions for drinking water need to be supplemented with a social response in terms of the end-users' participation and the deployment of indigenous wisdoms. We should evolve a policy based on the feedback from the community for which a preliminary investigation is needed, gathering people's perspective on schemes run by the State.

Appendices

Table I-List of legislations focused in the study

Sl No.	Name of the enactment	Year
1	Jammu and Kashmir Water Supply Act	1963
2	Jharia Water Supply Act	1914
3	Kumaun and Garhwal Water (Collection, Retention and Distribution) Act	1975
4	UP Water Supply and Sewerage Act	1975
5	Himachal Pradesh Water Supply Act	1968
6	Urban Water Supply and Sewerage Board Act(Assam)	1985
7	Gujarat Municipalities(Cost of Local Cess on Land Revenue and Water Rate) Rules	1979
8	Gujarat Panchayats Act	1993
9	Karnataka Urban Water Supply and Drainage Board Act	1973
10	Tamil Nadu Groundwater (Development & Management) Act	2003
11	Kerala Groundwater (Control and Regulation) Act	2002
12	West Bengal Groundwater Resources (Management, Control and Regulation)Act	2005
13	Madras Metropolitan Area Groundwater (Regulation) Act	1987

Table II- Institutional Structure



(Source: Department of Drinking Water Supply, Ministry of Rural Development, Government of India)

FIRDAUS FATIMA RIZVI, WATER RIGHTS: A CASE OF WATERLOGGED RURAL AREAS OF ALLAHABAD

1. Introduction

The HPI measures poverty in developing countries. It focuses on deprivation in three dimensions: longevity, as measured by the probability at birth of not surviving to age 40; knowledge, as measured by the adult literacy rate; and overall economic provisioning, public and private, as measured by the percentage of people not using improved water sources and the percentage of children under five years who are under weight. A balance sheet of human development- goals, achievements and unfinished path shows that almost halve the proportion of people are without access to safe water. Nearly one billion people still lack access to improved water sources. India rank 55 in Human Poverty Index-1 and commitment to health: access, services and resources; it shows that only 31 percent Indian population have adequate sanitation and only 88 percent population have improved water sources according to 1999 estimates (Human Development Report 2001 p 160) but the percentage has fallen down to 28 percent and 84 percent for adequate sanitation and improved water sources in 2000 (Human Development Report 2004 p 162).

1.1 Drinking Water as Constitutional Right

The Fundamental Rights in Article 21 and Article 39 (a) and 39 (b) of the Constitution of India includes the right to clean water¹. The National Water Policy has assigned highest priority to drinking water supply followed by irrigation, hydropower, and navigation, industrial and other uses. As per the existing norms mentioned in the Ninth Five Year Plan (1997-2002), for rural water supply includes 40 litres of drinking water per capita per day (lpcd) and a public standpost or a handpump for 250 persons. Further, the sources of water supply should be within 1.6 km. horizontal distance in plains or 100 meters elevation distance in hills. The norm for urban water supply is 125 lpcd excluding sewerage system and 40 lpcd in towns with spot sources. Availability of at least one source for 20 families within a maximum distance of 100 meters has been stipulated (Ramachandraiah, 2001 pp 619).

2. State Intervention in Safe Water Accessibility

For the development and management of water resources, National Water Resource Council (NWRC) was constituted in 1983. The National Water Policy (NWP) gives first priority in water allocation to 'fundamental rights' for drinking and domestic use. Agriculture has second priority followed by industry. The NWP was reviewed in 1987 followed by another review on 1st April 2002. It focused on larger ecological system, its sustainability, rainwater harvesting, watershed management, and allocation of drinking water resources for human beings and livestock, drainage system etc. The goals of NWP are efficiency, equity, and sustainability in order to promote the livelihood of the poor.

The Government of India had launched the decade wise program in April, 1981 'International Drinking Water Supply and Sanitation Decade' with a view to achieving populations

¹ Article 21 deals with protection of life and personal liberty, article 39 (a) with equality among men and women having a right to an adequate means of livelihood and article 39(b) states that the ownership and control of the material resources of the community are so distributed as best to subserve the common good.

coverage of 100 percent water supply facilities in urban and rural areas, 80 per cent sanitation facilities in urban areas and 25 per cent sanitation facilities in rural areas respectively by the end of the decade, i.e. March, 1991. In September 1999 the National Commission for Integrated Water Resource Development Plan (NCIWRDP) in their report have modified the norms for water supply as 220 lpcd for urban areas and 150 lpcd for rural areas.

The new liberal norms were approved in June 2002 by the Cabinet for the provision of 55 lpcd towards drinking water for rural habitations as against the 40 lpcd at present. The norms related to distance have also been relaxed to 0.5 km in the plains and 50 meters as against 100 meters elevation in the hills. The rural water supply program would now be given 15 percent weightage instead of 10 percent for not covered or partially covered areas. Similarly, a weightage of 10 percent will be given to water supply affected habitations instead of the present 5 percent norm (Hindustan Times, 2002, pp 7)

The Accelerated Rural Water Supply Program (ARWSP), currently implemented through Rajiv Gandhi National Drinking Water Supply, has been in operation since 1972-73 to assist the States and UTs to accelerate the pace of coverage of safe water supply and also to widen adequate drinking water supplies facilities to the rural population. The number of habitations covered under it is 26,803 against a target of 45,527 and the population covered is 10.5 million as against a target of 21.6 million till the end of January, 2002 (Economic Survey, 2001-02).

2.1 Rural SC/ST Payjal Yojana

This scheme is being implemented in the state of U.P. from the year 1971-72. The objective of the scheme is to provide potable water in SC/ST dominated areas. This scheme is being implemented under the Minimum Needs Programme and is cent percent state fund scheme. Under the scheme, Jal Nigam installs India Mark II handpumps in the plain areas of the State and in Hill areas diggies were constructed by the block agencies.

2.2 Water Supply System in District Allahabad

According to the available literature by the Jal Nigam, there were about 115 tubewells and rivers, which provide 120 and 80 million litres of water per day respectively to the city. The total availability of water is 200 litres per capita per day to the city. There were 2000 units of handpumps installed in the city.

Each village of the district has the facility of piped water supply or India Mark II handpumps facilities for domestic purposes. District Allahabad has 48 rural piped water supply systems in which 1680 villages were connected. These systems have 111 handpumps, 90 overhead tanks, 6 groundwater tanks, and the plateau region of the district has 4 water purifying system, 6 zonal pumping stations and nearly 3897 km. long piped water supply system. In rest of the village the water supply is maintained by India Mark II / III handpumps. Till the year 1998, approximately 14057 units of handpumps were installed, in which 1100 handpumps were of India mark II. Nearly 1582 partly covered habitations were left for saturation until date 1st April 1998. According to the departmental information, nearly 333 handpumps were defunct in 1997-98 (U.P. Jal Nigam, Six Construction Division, Allahabad, 1999-2000). Jal Nigam, look after about 48 rural piped drinking water supply and 14057 handpumps in rural areas of district Allahabad.

U.P. Jal Nigam six construction division supplies drinking water to the villages of Phulpur Tehsil in Allahabad District. The sources of water are tubewells, overhead tanks and

handpumps. The norm is that one handpump is to be posted for 250 people. Each headquarter have a Geologist who is responsible for maintaining efficient supply of water, checking chlorination and bleaching levels etc. The officials are responsible for checking water per day, hour to hour, monthly, half-yearly, yearly and so on. During the monsoon (in case of dysentery, diarrhea, etc) the responsibility lies on the geologist to perform chemical and bacteriological test of supplied drinking water regularly.

There was approximately 5000 India Mark II handpumps installed in the Tehsil at the depth of 100-140 ft. The responsibility of maintenance of the defunct sources lies on the Area Panchayats. Previously the responsibility was on Jal Nigam but that has shifted to the Panchayati Raj.

There were many water supply schemes running in Phulpur Tehsil. Phulpur Block consists of Sarain Abdul Malik, Patulki, Chandoha and Mahlahan Water Supply Schemes. Most probably, the water supplies of the selected sample villages come under the Mahlahan Water Supply Scheme.

2.3 Mailahan Water Supply Schemes: A Scheme that covers the Study Area

This scheme was started in 1975, and was supposed to cover 51 villages, but the real benefited villages were only 40. The population covered under the water supply scheme in the year 1981 and 1991 was 42604 and 55074 respectively. The projected figure of the population was 40145 at the time of implementation of the scheme. The water supply scheme was projected to provide 70 litres of water per capita per day to the rural people. The sources of water supply system were the four tubewells having the capacity of 336 kilolitres per hour. Availability of the electricity was, estimated to be, an average of sixteen hours per day. The number of overhead water tanks per tubewell is one having the capacity to hold 179 kilolitres of water. The Mahlahan Water Supply System also has a pipeline of 48 kilometres. The numbers of handpumps installed in the scheme were 45 in the covered villages. The number of 1050 private handpumps and 40 standpost were installed in this scheme (Source: U.P. Jal Nigam Six Construction Division, Allahabad, 1999-2000). There was also Daggura Water Supply through piped lines, two kilometers away from Mailahan. Timings for water supply in the morning were from 5:00 am to 8:00 am, and in the noon from 12:00 pm to 1:00 pm. In the evening, the water is supplied from 4:00 pm to 6:00 pm. The Mahlahan water supply system provides piped water in the Gram Sabha Bhamai also. The overhead water tank at Daggura (a single boring tubewell) was responsible for the water supply in Mahlahan and its adjoining area.

3. Unique Features about the Study Area

The multiple factors behind waterlogging in the region were rainwater, canal irrigation, impeded drainage of the river Varuna etc, but the frequency of these varies village wise. The respondents gave different weightage to each factor. Greater emphasis by the respondents had been given to rainwater as the primary cause of waterlogging. Rainwater created more havoc in the absence of effective drainage system during the peak monsoon season. The second factor was attributed to the river Varuna that they thought was responsible for the waterlogging due to its impeded drainage and its low level of capacity to carry water. The low capacity of river Varuna and its callous dumping had made most of its neighbouring areas waterlogged.

The third major factor was the coming up of Sharda Sahayak Canal into the region since the last ten years. Often the canal embankment got ruptured, causing unwarranted water to flow into crop fields and then into village settlements. The other factors too play a major role behind waterlogging. The *karanja* road construction at the higher heights in villages also hinders the natural drainage thus causing waterlogging in the middle of human settlements.

3.1 Drinking Water Scenario:

Availability of potable water has a direct relationship with health related indicators. If water sources are equitably distributed, easily accessible and per capita consumption is high, it could alter the lifestyle, result in better health, higher productivity and income, and lead to improvement in school enrolments as well. Villages with piped water supply had higher levels of household and per capita income and relatively higher wage rates and even they had high level of literacy, immunization and contraceptive prevalence rate. Villages in which handpumps are the dominant source of water supply do not show a positive association between levels of income and poverty as appears to be the case in relatively backward villages (India Human Development Report 1999, p. 191).

The existence of source of drinking water in rural areas is one of the most important indicators of development that reflects the economic prosperity of a village. This paper analyses how the State still lacks in providing the basic necessity of safe drinking water to all its citizen and regulate developmental activities that pollutes the water sources and thereby affect the health and development of the people and the economy as a whole. According to the unpublished 'Uttar Pradesh Human Development Report', Allahabad's Human Poverty Index is 44.91 and Poverty Ratio is 33.45. The poverty ratio reflects the unweighted average of households having temporary non-service house and houses without access to safe water sources. The percentage of households in Allahabad without safe drinking water is 56.11 percent.

Table-1
Main Source of Drinking Water by Caste

Source of Drinking Water	General Caste	SC	OBC	Muslims	Total
Closed Wells*	1 (8.3)	1 (2.50)	1 (1.43)	2 (7.14)	5 (3.3)
Open Wells	3 (25.0)	32 (80.0)	46 (65.71)	6 (21.43)	87 (58.0)
Tap*	6 (50.0)	1 (2.50)	11 (15.71)	10 (35.71)	28 (18.7)
Hand Pumps	2 (16.67)	5 (12.50)	12 (17.14)	8 (28.57)	27 (18.0)
India Mark II*	-	1 (2.50)	-	2 (7.14)	3 (2.0)
Total	12 (100.0)	40 (100.0)	70 (100.0)	28 (100.0)	150 (100.0)

Source: Field Survey (Figures in bracket denote percentage)

Note: * represents safe drinking water sources.

It is clear from table-1 that almost 76 percent of the rural population had to depend on the traditional sources of water like the open wells (58%) and handpump (18 %), which were considered to be unsafe for human use. Only 24 percent of the households were getting safe

water from closed wells (3.3 %), Taps (18.7%) and India Mark II handpumps (2.0%). This has so far been below than the rural India average (55.54%) in 1991 (Kanmony, 2003).

The safe drinking water sources include taps, closed wells and India Mark II. The Table-1 clearly indicates that the disadvantaged groups are still discriminated in provision of safe drinking water. Out of the total, 58 percent General caste (that include 50 percent tap and 8.3 percent closed wells dependents) and 50 percent Muslims (which include 36 percent tap, 7.14 percent closed wells and 7.14 percent India mark II dependents) households have safe sources of water, whereas, the Schedule Caste and the OBCs have a low share of 7.50 percent and 17.14 percent having access to safe water sources respectively.

Above all, only 19 percent of the total households have taps connections in their premises or in their surroundings (In India, 8.7% population in rural areas receive organised piped water supply, Statistical Abstract of India, 1998). The distributions of tap connections were found to be very low among the SC and OBC households where only 2.50 percent of SCs and 15.71 percent of the OBCs had to depend on tap water. Thus, it could be said that the General caste in rural areas still have the privilege of protected water provided by the civic bodies.

3.2 Burden on Single Source:

The dependence on single sources was quite high among the sample households that reflected the burden on particular sources. A meager of 1.33 percent of households dependent on open wells and 1.33 percent of households dependent on handpumps opined that near about 200 people take water from a single source. It means that a particular source is unable to cater the needs of the larger society, thus the availability of water becomes low. Even 6.66 percent household's who depend upon open wells as their primary source are of the view that 150-160 persons take water from that respective source whereas 14.66 percent said that 40-50 persons depend on single well for drinking and domestic water purposes thus reflecting higher dependence.

Higher dependence on a single source directly relates to low water consumption by the households accruing in water shortages and frequent breakdown of handpumps and India Mark II, deterioration of wells and the other sources of water. It was observed that the water shortages mainly aggravate during peak summer months or during waterlogging periods.

3.3 Distance of the Main Sources of Drinking Water

Table-2 presents the profile of drinking water sources within or outside the premises of sample households. It shows that only 19 percent households have access to safe water sources present within household premises that includes closed wells (2.67%), taps (14.67%), and India Mark II (1.33%). Other 5.34 percent households have safe water sources outside their premises, of which only 4 percent households have taps connections and 4.67 percent also have standposts within a distance of half kilometer.

Table- 2
Distance of the Main Drinking Water Sources

Source of Drinking Water	Within Premises	0 to 0.5 Km	0.5 to 1 Km	Total
Closed Wells*	4 (2.67)	1 (0.67)	-	5 (3.3)

Open Wells	29 (19.33)	56 (37.33)	2 (1.33)	87 (58.0)
Tap*	22 (14.67)	6 (4.00)	-	28 (18.7)
Hand Pumps	20 (13.33)	7 (4.67)	-	27 (18.0)
India Mark II*	2 (1.33)	1 (0.67)	-	3 (2.0)
Total	77 (51.33)	71 (47.33)	2 (1.33)	150 (100.0)

Source: Field Survey (Figures in bracket denote percentage)

More than 19 percent of the households have open wells located within their premises, 38 percent households have access to open wells located within half kilometer distance and 1.33 households carry water from a distance of 0.5 to one km. The provision of India Mark II in the selected villages was very low. Only 2.0 percent households depended on India mark II of which 1.33 percent households had access to India Mark II within their campus and 0.67 households had to carry water from outside their premises.

Table-3
Source-wise Analysis of Drinking Water in Selected Area

<i>Village</i>	Closed Wells	Open Wells	Tap	Hand-pumps	India Mark II
Rajepur	2 (9.5)	15 (71.4)	1 (4.8)	3 (14.3)	-
Rajepur Sarain Arjani	-	10 (83.3)	-	2 (16.7)	-
Mailahan	-	22 (68.0)	1 (3.1)	7 (21.9)	2 (6.3)
Rasoolpur	-	8 (80.0)	2 (20.0)	-	-
Chitaha	-	-	6 (100.0)	-	-
Balkaranpur	1 (5.6)	10 (55.6)	3 (16.7)	4 (22.2)	-
Jalaalpur	-	16 (84.2)	-	3 (15.8)	-
Bhamai	2 (6.3)	6 (18.8)	15 (46.9)	8 (25.0)	1 (3.1)
Total	5 (3.3)	87 (58.0)	28 (18.7)	27 (18.0)	3 (2.0)

Source: Field Survey
(Figures in bracket denote percentage)

The source-wise analysis of drinking water (Table-3) shows that a majority of the people in the selected villages except the village Chitaha were dependent on groundwater through open wells and handpumps which were considered to be unsafe sources. But, 100 percent households in Chitaha and 47 percent households in Bhamai relied on tap water supplied by the Mailahan Water Supply Scheme. Nevertheless, households in Mailahan itself do not get sufficient water supply through taps and it was found that only 3 percent households were dependent on tap water supply. In Rasoolpur and Balkaranpur, 20 percent and 17 percent used tap water respectively. None of the households in Rajepur Sarain Arjani and Jalaalpur

had access to tap water. Fewer households use India Mark II water in Mailahan (6.3%) and Bhamai (3.1%) and no households had access to India Mark II in any other sample villages.

According to the respondents, few hamlets in Mahlahan namely Usri and Azadnagar, have the problem of hard water through groundwater sources that are not sufficient to meet the requirements for domestic purposes. Because of hard water from wells, handpumps and India Mark II, many of the households in these hamlets depended upon tap for the drinking purposes. Both the hamlets have only one well as a source of drinking water, which has less saline water. Apart from this, Azadnagar hamlet has two private handpumps whose water was being used for domestic purposes. Few households also take water for domestic uses from their neighbours who are located at some distance. Monra hamlet, a Harijan Basti in Mahlahan have no handpumps and India Mark II in the area so they have to depend mainly on the well.

When the main source dry up or gets polluted, then the households opt for secondary sources lying within half a kilometer range from their premises. The other sources of water were mostly the open wells or the handpumps. One of the respondents in Mailahan replied that when water gets contaminated, they shift towards the tap water available at 35 feet from their house. Little more than a percent of the households were of the view that they had to carry water from a kilometer distance during water crises. All the members of the households including children helped in the task of carrying water from far off places.

3.4 Per Capita Water Consumption

It was reflected from the Table-4 that about 51 percent of the households in the study area were getting water much below the national norms of water requirements i.e. 40 liters per capita per day (lpcd) for rural areas. Caste-wise analysis shows that 63 percent households of the Schedule Caste got water below the above-defined norm. However, only 33 percent of the General caste households were getting water below the standard norms. The household in Muslims and the OBCs shows a similar trend with nearly 50 percent of them getting water below minimum requirements for daily consumption.

Table-4
Per Capita Water Consumption by Caste

S.N	Per Capita Water (in Litres)	General caste	SC	OBC	Muslims	Total
1.	11-20	1 (8.33)	2 (5.0)	2 (2.86)	-	5 (3.33)
2.	21-30	1 (8.33)	4 (10.0)	13 (18.57)	3 (10.71)	21 (14.0)
3.	31-40	2 (16.67)	19 (47.50)	18 (25.71)	11 (39.29)	50 (33.33)
4.	41-50	6 (50.0)	8 (20.0)	22 (31.43)	10 (35.71)	46 (30.67)
5.	51-60	1 (8.33)	8 (7.50)	5 (7.14)	3 (10.71)	12 (8.0)
6.	61-70	1 (8.33)	1 (2.50)	2 (2.86)	1 (3.57)	5 (3.33)
7.	71-80	-	1 (2.50)	2 (2.86)	-	3 (2.0)
8.	81-90	-	1 (2.50)	3 (4.29)	-	4 (2.67)
9.	91-100	-	1	2	-	3

			(2.50)	(2.86)		(2.0)
10.	100-110	-	-	1 (1.43)	-	1 (0.67)

Source: Field Survey

3.5 Contamination of Drinking Water

The waterlogging scenario had highly affected the social and economic condition of the people in the study village in many different ways. Contamination of drinking water was one of the severe problems faced by the local people. Almost 80 percent of the households stated that problem aggravated more when water of well rose up to the ground level during the rainy season. In the sample village, occurrence of sand, mud and worms with foul smell was commonly found during the waterlogging which contaminated the drinking water sources.

The presence of sand and mud with water were common features for 54 percent households in the sample villages. The other problems that were faced by 15 percent households, were the bad smell and worms in drinking water mostly through open wells, handpumps and taps. So open wells and handpumps were found to be the unsafe source of water that negatively affected the health condition of the sample households. The source-wise analysis shows that 37 percent households faced sand and mud with drinking water through open wells and 9 percent households experienced bad smell and worms in drinking water from the same source during the peak waterlogging days.

More than 7 percent and approximately 5 percent households opined that drinking water contained sand and mud, with bad smell and worms respectively through handpumps during the waterlogging days. Tap water, which was hygienic for domestic purposes also, indicates that 6 percent households depending upon them had sand and mud mixed with water and about five percent of the total respondents even had reported bad smell and worms. The households dependent on the closed wells and India Mark II were least affected by the above mentioned problems. Only 3.3 percent and 0.67 percent households had access to closed wells and India Mark II respectively, however they had sand and mud mixed with water. None of the households dependent on India Mark II and closed wells had foul smell and worms present in water.

4. Policy Implications

Some policy implications would certainly help in mitigating out the problems of shortage and inaccessibility of drinking water.

A critical aspect of the water supply scenario in India is the existence and emergence of defunct sources. A growing number of sources becoming defunct is a matter of deep concern as it involves the issues of management, possibilities for rejuvenation and a thorough re-evaluation of water supply schemes in India for its sustainability and perenniality.

The nodal agency should provide mechanics at village and panchayat levels, which will facilitate easy resumption of water supply. They should be motivated to come forward to identify the potential people who could be imparted training to repair their own defunct sources in their respective areas. The Panchayat and the Corporators should be made aware of government's allocations and the schemes be prepared for them in their respective areas by professional bodies.

Panchayat members, Corporators and Ward members should be motivated to identify the causes for unequal water distribution so that the weaker sections of society are able to access this facility. Such bodies can play a significant part in creating awareness and identifying the role of professional functionaries. The local people should be sensitized, so that they may become aware of every loophole in the government departments and they can fight for the opportunities and welfare, which are provided to them. Altogether, they should initiate local movements to tackle water problems.

Priority should be given to rehabilitation and restoration of decaying traditional water harvesting structures to their full potential for the future. It is not enough to build new water harvesting structures only but efforts should also be made to revive the vast treasure that already exists and have been thrown into disuse (Agarwal, 2001 pp 4). Water harvesting should be made a national movement. There is a need for planners and policy makers to formulate an effective strategy to club the institution as well as individual endeavour for revival of traditional resources.

Local Communities must have a right over the resources that they regenerate and manage. The Khadins of Rajasthan, and the community wells of Gujarat are the outstanding examples of water harvesting. A conducive environment for water management would mean community empowerment and enactment of laws that promote it. Panchayati Raj Institutions could offer a platform to bring this about gradually.

A new paradigm is needed to manage water that can be built both on past and current practices of numerous communities in India and other parts of the world, which remain outside the fold of state managed water supply systems. This does not mean that the state has no role to play in water management or there is no role for centralized water supply systems. But there is clearly an urgent need today to restore a balance between the role of the state and that of communities and individual households. The rational and the emotional needs are required to be merged to form a coherent direction for effective preservation.

India today needs a people's movement to meet its water requirements and to protect its water resources. So water literacy is an immediate as well as historical necessity for the people to generate awareness among the society. There is a need for the participation of the NGOs, Government, professional, educational institutions and other representative bodies' interaction with the local people to generate the required awareness among the society. In 1999, the Madhya Pradesh's Chief Minister urged the Panchayat members to take up at least one water harvesting structure in their village. This gave rise to the birth of ***Ek Panch Ek Talab*** concept and as a result of which now each and every village of Madhya Pradesh has one water harvesting structure.

The local people must be made aware of the conservation programmes like ***Pani Roko Abhiyan; Gaon ka pani gaon mein, Khet ka pani khet mein;*** making of small check dams, and celebrating programmes like ***Jal Mahotsava***, etc. The ***roof-top harvesting programmes, water conservation and harvesting programmes etc*** are required to stop run-off of rain water to rivers and oceans to recharge groundwater. Small checkdams, wells, tanks, ponds and lakes should be created or renewed. Silt from lakes and ponds etc should be regularly removed after certain periods.

A national campaign for water literacy is required to spread the message that water is a precious natural resource with a value system that makes the water every body's concern. The society should know how to manage its water resources and how to share it equally and

optimally. As women play an important role in collection of water, systematic persuasion should be made to involve women in project identification, development, maintenance and its upkeep. Both men and women should equally be involved in managing water.

Pricing Policy should be devised in such a way that it might contribute to augmentation and repairing of water sources. Where water taxes are not levied in rural areas, it is suggested that appropriate water taxes should be taken to make operation and maintenance self-sustaining to the extent possible.

5. Conclusion

Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a prerequisite to the realisation of all other human rights. Under the Human Rights manifestos and fundamental rights in the constitution of India, the right of access to safe water is one of the rights. But for many, it is still inaccessible or difficult to access this important resource. Very often, lack of water for personal and domestic hygiene causes water washed diseases like diarrhea, worms, eye infections, skin diseases etc. Unless the fundamentals of an issue are not disseminated and absorbed, mere constitutional protection serves little purpose.

Despite several Drinking Water Supply Schemes and approved liberal norms for drinking water availability, there are number of partially and not covered habitations and several households showing insufficiency of drinking water facility. Even high variations among the states are seen. There is bias in terms of supply of water among household's income level. Apart from this, there is inequitable distribution and consumption of water among various settlements and class town size. The worst victims are people below poverty line mostly dependent upon traditional water sources, where women entail long hours in fetching water from far off places. There is a need for an equitable distribution of water system in every human settlement.

To ensure access to water for all, multiple angularities prevailing in water supply systems should be removed. The externalities like water pollution and contamination, depletion and over exploitation of groundwater, etc are also causes of low per capita water availability. So an integrated approach to water resource management would help in solving water problems and making water easily accessible to all. The Government should charge the users both in urban and rural areas to finance better supply of water- better quality of water, with low levels of dirt, minerals and biological matter, as well as increased number of hours or water supply. The consumers and political support as well as community and local participation will help in universal access and clean water as every body's right and business.

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VIII. IRRIGATION

SUSHANTA KUMAR MAHAPATRA, FUNCTIONING OF WATER USERS ASSOCIATIONS OR PANI PANCHAYAT IN ORISSA: PRINCIPLE, PROCEDURE, PERFORMANCE AND PROSPECTS

1. Introduction

Participatory Irrigation Management (PIM) has been conceived as the thrust area in the effective irrigation management by involving and associating the farmers in planning, operation and maintenance of the irrigation system. Setting up organization has acknowledged significant attention in PIM Programs. The number of organisations registered or in the process of formation has been used as the scale of success of PIM. But institutional aspects of farmer participation in irrigation receive less attention in the current PIM policies. Similar to many other countries, many states in India are looking for, to involve farmers in operation and maintenance at higher levels through a variety of PIM and Irrigation Management Transfers (IMT) Programs (Gulati et al. 2005).

The National Water Policy 1987 emphasized the participation of farmers in different aspects of the management of the irrigation system, principally in water distribution and collection of water rates. The Vaidyanathan Committee on Pricing of Irrigation Water (Planning Commission 1992) suggested farmer's participation in the management of irrigation systems. A separate Working Group on PIM was set up by The Planning Commission to re-examine and recommend the strategies for the Ninth Five Year Plan, where the legal, financial, and institutional factors were recognized as the vital to the successful implementation of PIM programs. According to the Mid-Term Appraisal of Ninth Five Year Plan, the progress achieved so far in PIM, designed to improve water-use-efficiency, is rather low. The irrigated area transferred to WUA in India is only about 7 percent as against 45 percent in Indonesia, 66 percent in Philippines, and 22 percent in Thailand (Government of India, Planning Commission 2000). Latterly, the voluntary sector and Non- Governmental Organization (NGOs) have made their presence felt in the area of Common Property Resources (CPRs) focussing on the participatory forms of development (see in this context Chopra et al. 1990; Katar Singh 1991a, 1991b and 1994; Sengupta 1991; Singh and Ballabh 1996).

It was probably Henry Hart in 1961, who first pointed out the desirability of irrigation associations in canal irrigation systems too. The Maharashtra State Irrigation Commission recommended the same in 1962. The Second Irrigation Commission, 1972, went to the extent of citing some cases from all over India believed to be irrigation Panchayats, and attached 'high importance' to the formation of such societies [India (1972, Part I), pp.373-74]. It also recommended states to undertake legislation for this purpose. The Command Area Development Programme, launched within the Sixth Five Year Plan, 1980-81, adopted the formation of irrigation associations as one of the strategies for the improvement of the canal systems. Chambers (1988) has shown that the reported cases of 'considerable achievement' of irrigation associations were instances of nominal success in exactly three projects: the Mohini Cooperative in Gujarat, the Pani Panchayats (Mula Project) in Maharashtra and the Pipe Committee of Pochampad in Andhra Pradesh. Ten years of failed attempts and exaggerated claims of success have already convinced a great many experts that programmes

in this area are not worth pursuing. Three serious deficiencies as pointed out by Sengupta (1991) were:

1. Most of the attempts intrinsically assumed that users' cooperation does not exist in India.
2. Not only were the efforts clumsy, but also their weaknesses were never reviewed, and nothing was ever learnt from a case of failure.
3. In absence of any effective coordinating agency between the different departments and the states the dissemination of information pertaining to these projects was left totally to the informal methods. ¹

Although PP has been introduced and promoted in the State of Orissa for more than a couple of years, the acceptance of the concept has been lethargic and scattered. A full census is not available and we don't know the size & nature of the PP and whether they are indeed functioning or not. There are no reliable figures and also lack of data available regarding number of WUAs in existence. In this new institution (Pani Panchayat), informal societies and others serve political purposes; retain caste power replacing indigenous practices. Therefore an endeavour has been taken to find out how far the new institutions will be sustainable in the long run. Though there is much talk about people's participation in canal irrigation system, it shows that there is only transfer of a little more rights and responsibility to farmers at tertiary level. The rights to prepare all the basic designs have remained State Departmental prerogatives as ever (Sengupta, 2002).

This paper is organized in the following manner. Section one discussed many important issues and experiences of performance of Farmer Managed Irrigation System (FMIS), Water User Association (WUAs) and Participatory Irrigation Management (PIM) studies in different States on different issues. Section two analytically reviews the Orissa Farmers Management of Irrigation Systems Act and study the functioning of the Pani Panchayat. On the whole it discusses the brief note on status of Pani Panchayat (here after called PP) in Orissa, primary motivations for introducing PP in the State, emergence of the PP Act, and characterisation of farmers' organisation, diverse strategy & assignment of PP, state-wide initiation of PP, salient features of Biju Krushak Vikask Yojana (BKVY). Section three briefly examines the socio economic characteristics of the studied PP members, their distribution of ownership of land patterns, cropping pattern, cropping intensity, production of output and crop income. Finally section four deals with different aspects of PP such as the maintenance of water rights, land rights in PP, farmers' assessment of PP, and reasons for explanation of the non-utilisation of the estimated area of PPs. Appendix contain the profiles of the selected PP.

2. Pani Panchayat in Orissa: Initiatives and Challenges

Government of India adopted National Water Policy in 1987. The same was reviewed and updated in 2002. Based on the policy; Guidelines were issued to all the States of PIM, attaching utmost importance to the farmers' involvement in various aspects of management of irrigation system, particularly in water distribution and collection of water rate. Government of Orissa adopted a similar policy of PIM in State Water Policy of 1994 which emphasizes on transfer of irrigation management to farmers. From being a mere provider of

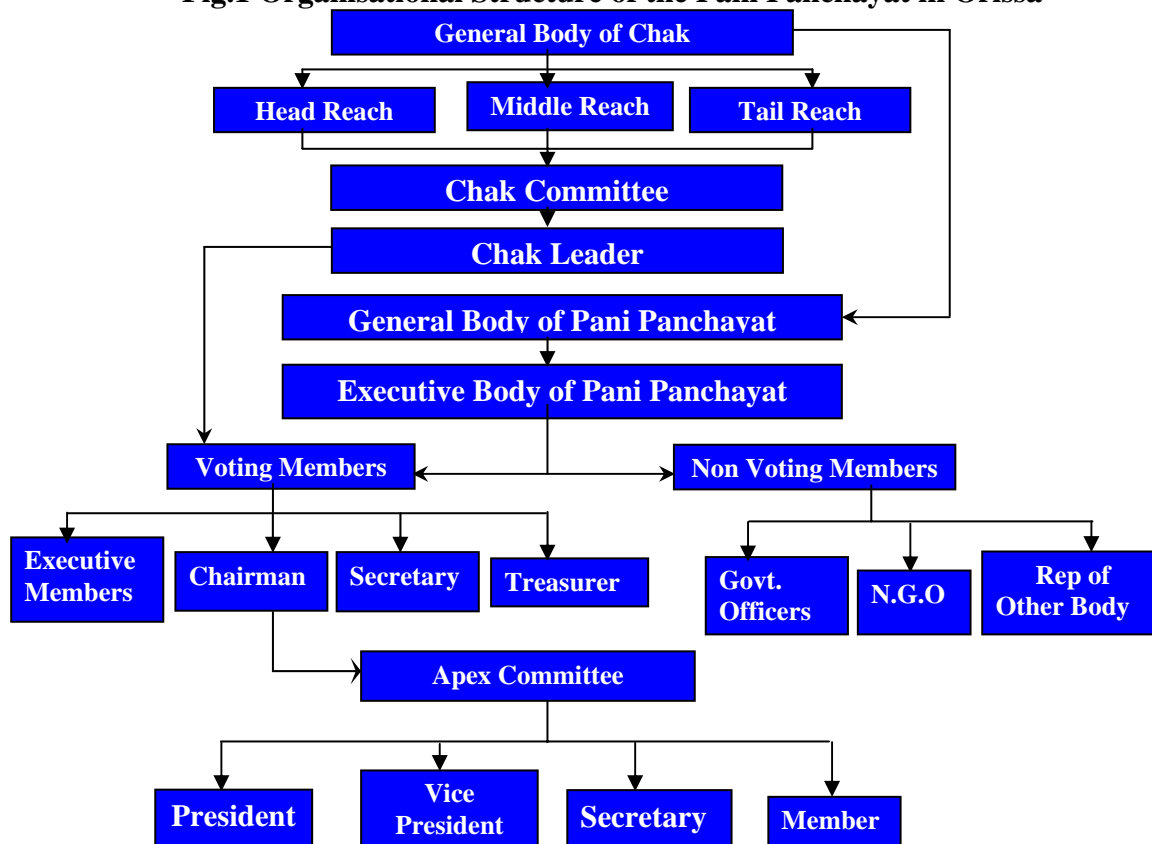
¹ Cited in Sengupta, Nirmal (1991): pp.79-80

water it has move into a paradigm of sustainable water resources management with a focus on people participation.

Ever since the late 1990s, the Orissa Government has been demonstrating a massive interest in farmers' participation in water management. This, however, appears to be wisdom which has been received from the World Bank. The necessity for farmer participation arose from the Government's assurance to the World Bank funded Orissa Water Resources Consolidation Project (OWRCP). As a component of this project, the Farmers Organisation and Turnover (FOT) programme has been given much significance. FOT actions largely include some methodical procedures through which tertiary segments or downstream parts of the canal system such as minors and sub-minors are handed over to beneficiary farmers for its operation and maintenance by forming PPs or WUAs. The main purpose of FOT programme is to entrust some responsibility to farmers through formation of PPs or WUAs which include the collection of water rates, distribution of canal water among water users, operation and maintenance of canal at lower level such as minor, sub-minor, distributary. In this programme, PPs are created on a three tier systems with two informal associations and one formal association on hydraulic boundaries ranging from 300 hectare to 600 ha. of command area. At the lowest level, Chak Committee is formed taking three farmers, each one from head; middle and tail reach of the ayacut of an outlet. A representative called as chak leader of each of these chak committees is a member of executive of PP. The President, Vice-President, Secretary and Treasurer of the PP or WUA are elected out of the executive body of concerned PP. It may be revealed that, all the water users are members of general body of the PP. At the project level, a federation of all WUA is established a formal but non-binding advisory role in mail system operation and maintenance known as Apex Committee. The executive members of the Apex Committee are elected out of the Presidents of all WUAs within the command area jurisdiction of the irrigation project. The basic organisational structure of the Pani Panchayat is presented in Figure 1.

Thus, Orissa has taken up the PIM, covering all the irrigation projects in the state. The Orissa Farmers Management of Irrigation Systems Act, 2002, called *The Orissa Pani Panchayat Act, 2002*, is facilitating tool for the farmer participation. The first step made in this process of reformation was to hand over a part of the network of the canal system/irrigation for its Operation and Maintenance (O&M) to the farmers or the beneficiaries through 'Pani Panchayat' or WUAs. The farmers have been demonstrated about the utility and benefits of PPs. Farmers are suggested with measures for taking up of minimum maintenance work by themselves for ensuring free flow of water up to the tail reaches. They were also helped to organize water distribution in their jurisdiction, resolve disputes, if any, and adopt their own crop planning etc. The PPs were registered as legal bodies to provide the required identity.

Fig.1 Organisational Structure of the Pani Panchayat in Orissa



2.1 Emergence of the Act

The Orissa Farmers Management Irrigation Act provides for the establishment of farmers organizations in all the irrigation systems, for their operation and maintenance. The act has 43 sections divided into 7 chapters. Each chapter provides specific provision for a specific objective/activity. No-9371-Legis.-The following Act of the Orissa Legislative Assembly having been assented to by the Governor on the 25th June 2002 is published for general information. 'Orissa Act 10 of 2002 The Orissa Pani Panchayat Act, 2002 an Act to provide for farmers' participation in the management of irrigation systems and for matters connected therewith or incidental thereto'.² Whereas in the State of Orissa, which is essentially an agricultural State depending on an efficient and equitable supply and distribution of water, which is a National Wealth, ensuring optimum utilization of water by farmers for improvement of agricultural production is the utmost need.

² See in this context The Orissa Gazette (2002): The Orissa Pani Panchayat Act, 2002 No.1053, July 8, Cuttack.

2.2 Characterization

This Act may be called the Orissa Pani Panchayat Act, 2002. It extends to the whole of the State of Orissa. 'Farmers Organisation' means and includes:

1. PP at the primary level consisting of all water users, as constituted within a specified hydraulic boundary of a major, medium, minor (flow and lift both surface and groundwater) and creek irrigation projects funded by the Government as constituted under section 3,
2. Distributary Committee at the secondary level, as constituted under section 5,
3. Project Committee at the project level, as constituted under section 7;
4. Every PP shall consist of all the water users who are land holders in the area of a PP;
 - a) Explanation I. - A land holder may nominate any adult member of his/her family to be the member of the Pani Panchayat;
 - b) Explanation II. - A minor landholder shall be represented by his /her legal guardian.
5. Government may, by notification nominate at least one officer each from Department of Water Resources, Department of Agriculture and Department of Revenue to be the members of the Pani Panchayat without having the right to vote.

2.3 State-wide Initiation of PP Programme as on Mid-2005

The Government of Orissa with a view to provide equitable, timely and assured irrigation has introduced the concept of PPs scheme through farmer's awareness Programmes in the irrigated commands throughout the State. The concepts was finally lead to transfer of tertiary irrigation networks (Minor/ Sub-minors) to registered 'Pani Panchayats'. The responsibility of operation and maintenance (O & M) of the reservoir/diversion weir (as the case may be) Dam, Spillways, sluices, primary and secondary distribution networks etc, rests with the Department of Water Resources (DOWR), where as the responsibility of 'O & M' of the tertiary systems i.e. (Below minor/sub-minor) will be with PPs. The geographical extent of the programme covers the entire State comprising of about 18.25 lakh hectares of Major, Medium & Minor irrigation command areas in all the 30 districts of Orissa.

The PIM has become the cover stone of the Department. Starting from a few pilot projects, it has now been extended as a policy to the entire water resources sector encompassing major, medium, minor (flow) and lift irrigation projects. 7333 PP have been constituted in the State by 2001-2002. The realized irrigation potential of 75,000 hectars has been handed over to PP for operation and maintenance of the system. Up to October 2002, 434 no. of PP have been registered having ayacut area of 3, 32,000 hectare in major and medium irrigation projects under Orissa Water Resources Consolidation Projects (OWRCP). Under minor irrigation (flow) 329 no. of PP have been registered covering an area of 76,000 hectare up to October 2002. Totally 5,619 PPs have been formed, and out of that 2,847 handed over to farmers till republic day of 2003. 12688 PPs have been constituted in the State by Mid-2005, covering an area of 9.95 lakh ha. Irrigation management has been transferred to 10764 PPs covering 7.11 lakh ha, out of total command area of 18.25 lakh ha. Four Pilot projects in the first phase namely, Ghodahada project, Rushikulya Distributary No. 11 of Ganjam District and Aunli

and Derjang Projects of Angul District were identified for this work during 1996 and related activities of PPs started simultaneously in the projects.

2.4 Diverse Strategy & Assignment of Pani Panchayat

Diverse Strategy of PP has certain consequence in relation to the source of water.³ This discrepancy must be considered as a qualitative change from the condition of agriculture, which is entirely rain fed. One is obviously related to the cropping intensity throughout the year in relation to the assurance and availability of water. However, in minimum there is at least a certainty of irrigation during Kharif (rainy season-June to November). Sometimes it is rainfall, sometimes it is a wrong technical design, sometimes the command is not homogenous and it is scattered and consequently there are losses in transit etc. There are number of human factors, which also compromise the possibilities of achieving the level of irrigation that was originally or traditionally intended and designed.

2.5 Sources of Funding and External Resource Mobilisation for Pani Panchayat

The farmers' organisation will get access to a funding granted by the State and Central Government for the development of the area of operation, resources raised from financing agency, income from the assets of the organisation, fees collected by the organisation and donation received from any other sources. The funds thus mobilised shall be deposited in a Nationalised Bank or a Co-operative Bank or the District Co-operative Central Bank or the Orissa State Co-operative Central Bank in the names of such office bearers as may be prescribed. The Executive Committee of the Farmers Organisation shall maintain a sinking fund with a view to facilitating repayment towards borrowed funding. Resource mobilisation from outside the system includes cash and kind resources mobilised from the central or local Government, or labour contributions from other command areas in emergencies. The PP systems look for outside resources for augmenting, assuring and minimizing the labour requirements for maintenance, and for increasing the volume of water flow in the canal. The farmers' organisation may levy and collect fees as may be prescribed by the Government and/or decided by the organisation from time to time. In case of Lift Irrigation Points, the farmers' organisation shall fix a water rate which may cover the cost of the energy charges and maintenance charges of the Project. In case a water user does not utilise any water in any particular season, the farmers' organisation shall be competent to fix such minimum charges as may be decided by the General Body of the Farmers organisation. No water tax will be collected by the Orissa Lift Irrigation Corporation from the members of the Farmers Organisation.

2.6 Government's Control over Pani Panchayat

In order to supervise the functions of the officer including the Collectors, the Government can appoint a Commissioner and give him the required powers for carrying out the functions specified by the Government. The Government also has powers to give directions to competent authorities/ farmers associations to take such actions as may be specified by it. The Government shall appoint officers from the Department of Water Resources as special officers or as competent authorities for implementing the decisions taken by the Executive Committees and they have powers of direction or instruction for carrying out the works

³ There are three types/schemes of PP. That is Lift irrigation, Minor irrigation (flow including tank) and canal irrigation.

entrusted to them within the purview of the Act. Every Farmers Organisation shall extend such cooperation or assistance, as may be required by the competent authority, and follow such directions or instructions as may be required by the competent authority, from time to time, for carrying out the purposes of PP Act.

2.7 Provision for Offences & Penalties and Recovery of Arrears

Those who violate the provisions of PP Act, 'shall, on conviction, be punished with imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both'. Further, section-30 of chapter 7 of the PP Act provides for recovery of money due to a Farmers Organisation as arrears of Land Revenue.

2.8 Disputes Settlement

The Executive Committees of PPs/distributary/project/Apex Committee are the authorities for the settlement of disputes arising among members of such an organization and the concerned committee shall be decided by the managing committees of immediate higher level organisations. The concerned members if aggrieved by the decisions of such committees shall be final. All the appeals under this act shall be disposed off within fifteen days. It is necessary to underline the powers of the Apex Committee or the Government. Section-26 of PP Act says 'any such dispute or differences arising between a member and the managing committees shall be determined by the Apex Committee, whose decision shall be final'.

2.9 Biju Krushak Vikask Yojana (BKVY)

The subsidiary of PIM is Biju Krushak Vikask Yojana (BKVY) which is unique model in the minor irrigation sector (flow as well as lift) of ensuring users participation right from the inception of project. The salient features of BKVY is that there is an open invitation to farmer to form themselves into registered PP to derive the benefit of irrigation assistance from the Government and farmers contribute 20 per cent of the capital cost in the shape of cash or kind (in backward regions such as Kalahandi, Bolangir and Koraput district so called KBK and tribal sub plan areas the contribution of farmers is kept at 10 per cent). The State provides the rest of the capital cost as one time assistance and also executes the project on behalf of the PP. After completion of the project it is handed over to the PP for operation and maintenance. The Government does not intend to collect any water tax from the farmers and the projects are to be maintained by the PP themselves. For this scheme an amount of Rs. 367.69 crores has been proposed in the tenth plan out of which Rs.117.69 crores has been earmarked for the KBK district. Negotiated looks amounting to Rs. 250.00 crores from NABARD are also proposed for funding of this scheme during tenth plan.

2.10 An Assessment of Orissa Pani Panchayat Act 2002

2.10.1 SUPPORTIVE SIDES

The Act no doubt endowed with the legal framework for a better participation by farmers in water management for the first time in the history of irrigation legislation in Orissa. The Act enables farmers' participation, not only at a lower level but also in a restricted manner at the main system level. The farmers' collective action is enabled through the formation of PPs, the office bearers for which have got to be elected through a democratic process. The Act also provides for the autonomous management of the irrigation system by the Farmers Organisations in their respective areas for both the maintenance of the system and for the distribution of water supply. The annual grants allocated by the Government for various

purposes, such as for operation and maintenance can now be better utilized by PP. Also the PPs have legal powers to levy and collect additional water charges, which would enhance their financial positions. Hence this provision would go a long way in improving the cost recovery. With regard to the settlement of disputes, since the decisions taken by the concerned committees or their higher level committees are final, the Courts are forbidden to entertain any further appeal. A major breakthrough as regards the management of Farmers Organisations is that the members of the association are vested with powers to recall the committee members. This provision would contribute for the accountability of the elected leaders and restrain them from mismanagement. Further, the Government as has been generally seen in many other organisations like co-operatives and Panchayats can not wind up the executive committees of PPs.

2.10.2 HARMFUL SIDES

It is significant to take a critical view of the provisions of the PP Act and as such a view may help to correct the inadequacies in the Act. Due to some compelling socio-economic, technological and institutional factors, many traditional irrigation institutions (TII) are in the process of decaying or already defunct in many villages of the State and country, TIIs are still functioning to a reasonable degree (For further discussions on the factors, which led to the disintegration of TII, see Janakarajan, 1993). In such village societies,

- Is it essential to superimpose a new institution (e.g. PP), through legislation, on the existing ones?
- Is it actually empowered to alter the norms and institutionalised practices, which have evolved over a long period of time?
- How the State can impose a non-functioning or a mal-functioning irrigation system to the people through an Act?
- Even if the State imposes it through law, to what extent will people will accept it, and what kind of a collective action can we expect from them?

As per the Orissa PP Act 2002 ‘every Pani Panchayat shall consist of all the water users in such PPs area as member [Chapter-II, Section 3 (4) (i)]. The way farmers are defined in the Act is somewhat narrow. If one concludes from the above section that a PP includes only those cultivators who own or cultivate land, then the Act is affecting a great injustice to a village society, in which water has been considered as the property of all sections of the community. In the process, the Act excludes the landless population from becoming members of a PP. The Government would to constitute an Apex Committee, which will have an overall control over PPs. But the constituent members of this Committee have not been spell out. The ambiguity lies, in particular, whether the members of Apex Committee are primarily from PP or from the Department of Water Resources or from any other section. This is important because, most of the final decisions are taken by the Apex Committee, and if this Committee is dominated by the WRO, then the strength and autonomy of PPs will get diluted. On the other hand, if the members of the Apex Committee are nominated from political parties, there is every possibility for the misutilisation of this provision in favouring the ruling parties.

Section 21 (1) of the PP Act provides for the appointment of personnel from the Department of Water Resources of the Government of Orissa, as competent authorities for implementing the decisions of the Farmers Organisation but their role is not specified. It is in fact, vague in defining the powers of the ‘competent authorities’ and requires the Farmers Organisation to

give effect to such orders. The Government may issues such orders and directions of a general character as they may consider necessary in respect of any matter relating to the powers and duties of the competent authority or the Farmers Organisation shall give effect to such orders and directions. Such undefined powers given to the Department of Water Resources personnel may result in the misuse of power. In which case, the whole purpose of empowering water users will be defeated. Further, such powers given to the Department of Water Resources personnel may weaken or dilute the autonomy given to Farmers Organisations. In the final analysis, the PPs may be reduced to the status of a mere takers or directions given by the Department of Water Resources.

Section-26 of PP Act says ‘any such dispute or differences arising between a member and the managing committees shall be determined by the Apex Committee, whose decision shall be final’. It is to be noted that, even in the case of a settlement of disputes among water users, the final decision in the hands of the Department of Water Resources. But currently, the matters concerning water disputes are resolved through local institutional mechanisms. Again, the main idea of the 73rd amendment to the Panchayati Raj Act is to strengthen the democratically elected Government which represents all sections of the village population. But the formation of PPs weakens this very elementary objective.

Despite the fact that the State water Policy statement mentions farmers participation in irrigation management, their rights over water are not clearly defined. The extent of users participation is limited to the operation and maintenance at local levels only. The involvement of the community in the system level designs and construction are neglected. As the water policy is an important document, which spells out the development strategy of a state, such neglect is a serious flaw and deserves a thorough revision.

The State resorts to turning over irrigation systems to people, which are beset by problems such as an absolute deviation from the original operational rules, a gross disparity between the availability of water supply and the demand for it, low recovery rates, the availability of very little resources for operation and maintenance, corruption at all levels, fragmented community action and so on. For a long time, the State played a major role in deciding the rules and regulations of water management. There were no provisions for user’s participation. Though there have been some attempts made in recent times towards promoting user participation, these legislations are not comprehensive. Moreover, there is no scope for involving farmers in the plan and design of the system right from the project formulation stage. Even the existing rules and regulations of irrigation systems, which are managerial in nature, suffer from a number of problems (For further discussions, see Raju 1994). The more crucial issue of relationship between water and water users was never a part of the State’s agenda.

The current paper deals with an evaluation of water management through community participation and emergence of PP in a case study of *Vir Bajrang Bali Pani Panchayat* under Lift Irrigation Point (LIP) of the Hirakud Command Area (HCA)⁴.

⁴ We are aware that, it is incredibly near the beginning to assess and evaluate the formal PP in Hirakud Command Area, Orissa, as the process of implementation is just falling on the line.

3. Functioning of Water Users Associations/Pani Panchayat in Hirakud Command Area (HCA)

In this section we are trying to examine the functioning of the *Vir Bajrang Bali* Pani Panchayat by observing the socio economic analysis of PP members, their distribution of ownership of land patterns, cropping pattern, cropping intensity, production of output and crop income.

3.1 Towards a Method, Study Area

In order to examine the functioning and impact of transfer of irrigation management to the water users, a detail survey of 70 households (HH) has been done in a case study of *Vir Bajrang Bali* Pani Panchayat under Lift Irrigation Point (LIP) of the Hirakud Command area, Orissa. The Primary data has been collected from *Bandhapali* village of *Kardola* Panchayat in *Dhankauda* Block comes under Sambalpur district. The *Bandhapali* village is 32 KM away from the district headquarter Sambalpur. The nearest railway station is at Hirakud 24 KM far from the village. *Bandhapali* is a revenue village of *Kardola* Panchayat consists of one ward.

Both quantitative and qualitative information are obtained in order to observe the efficacy of different types of institutional arrangements. Qualitative information is obtained by way of Participatory Rural Appraisal (PRA) use such as focus group discussions, key person interviews like senior citizens, officials in the irrigation department. Discussion were also done with the office bearers of the concerned PP, in addition to those expelled from the PP i.e. woman and landless people. Two structured questionnaires; one related to WUAs and another related to households, were prepared to collect quantitative information. These interviews unscheduled, and carried out in variety of locations like in a school house or Panchayat building, on a temple veranda, under a tree, or in private homes. Before and after scenarios were exploited to evaluate the impact as there is no option for with and without scenario, as all the farmers getting irrigation water are covered under Pani Panchayat. The field work was conducted during the month of January- February 2005.

The PP is named as *Vir Bajrang Bali* PP and registered under the Society Registration Act, 1860. The *Vir Bajrang Bali* PP refers to the organized effort of groups of farmers of *Bandhapali* village to formulate and implement community irrigation projects based on certain mutually agreed upon principles for water sharing. During surveyed time we have found that there are no women members in the organisation. Minute Book, Cash Book, Receipt Book showing the names of members have been mentioned. There are 30 number of members enrolled by depositing membership fee (Rs. 10/-) during our survey as observed from membership register and receipt book. We have discussed with the members about the schemes and they have decided to concentrate/undertake all round development of the villages under PP and protect the resources and rights of the members. Since PP deals with water which is CPRs, they present an interesting instance of Participatory development of CPRs. Though participatory, they are different from co-operatives. This difference manifests itself in their organizations structure and functioning.

3.2 Socio Economic Characteristics of Pani Panchayat Members

This section explains the socio-economic characteristics of the selected PP members that include classification of house hold, family size, working members, level of education, housing condition, provision of electricity, characteristics of ownership of holdings, cropping pattern, cropping intensity etc

Table-1: Classification of Households by Caste and Size of Holdings among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	SC	ST	OC	TOTAL
0.00-0.00	05	-	02	07 (10.0)
0.01-2.50	13	04	07	24 (34.3)
2.51-5.00	06	03	11	20 (28.6)
5.01-10.00	-	-	10	10 (14.3)
10.01 & above	-	01	08	09 (12.9)
Overall	24 (34.30)	8 (11.40)	38 (54.30)	70 (100.0)

Source: Field Survey (2004-05)

Note: i) Figures in the parentheses indicate the percentages of the respective categories.

ii) Blank entries in the Table denote nil.

iii) SC- Scheduled castes, ST-Scheduled tribes, OC-Other castes (which includes OBC-other backward castes, FC-Forward castes)

Table- 2: Demographic and Socio-economic Characteristics among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	No of HHs	Average family size (per HH)	Average male member (per HH)	Average female member (per HH)	Working member male (in %)	Working member female (in %)	Illiteracy of the head of the HH	Quality of house (in %)			
								Thatched	Kuchha	Pucca	Electrified
1	2	3	4	5	6	7	8	9	10	11	12
0.00-0.00	07	5.20	2.60	2.60	66	34	55	100	-	-	-
0.01-2.50	24	5.85	3.27	2.58	89	11	58	54	46	-	100
2.51-5.00	20	5.39	2.50	2.89	95	05	20	55	25	20	100
5.01-10.00	10	4.50	2.50	2.00	100	-	-	-	30	70	100
10.01 & above	09	4.20	2.15	2.05	-	-	-	-	20	80	100
Overall	70	5.24	2.77	2.47	87	13	35	49	33	18	92

Source: Field Survey (2004-05)

Note: Blank entries in the Table denote nil.

Table- 3 Characteristics of Ownership of land holding among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	No of HHs	% of HH	Total area of ownership holding (in acre)	Average amount of land owned per HH (in acre)	Total area of operational holdings (in acre)	Average area operated land per HH (in acre)	Total PP area owned (in acre)	Average PP land to owned land	Total Non PP area owned	Average non PP land to owned land	Total PP land to operated land	Average PP land to operated land	Total Non- PP area operated	Average Non- PP land to operated land
00.00	07	10.0	0.00	0.00	8.00	1.14	0.00	0.00	0.00	0.00	5.25	0.75	2.94	0.42
0.01-2.50	24	34.3	33.36	1.39	125.97	5.24	21.56	.89	10.75	0.44	40.56	1.69	27.36	1.14
2.51-5.00	20	28.6	77.2	3.86	68.91	3.44	46.10	2.30	31.23	1.56	62.4	3.12	57.8	2.89
5.01-10.00	10	14.3	74.00	7.40	84.3	8.43	24.92	2.49	49.04	4.90	37.5	3.75	24.5	2.45
10.01 & above	09	12.9	134.01	14.89	51.24	5.69	31.08	3.45	102.89	11.43	47.25	5.25	41.85	4.65
Overall	70	100.0	318.5	4.55	338.42	4.83	123.66	1.77	193.91	2.77	180.6	2.58	154.45	2.20

Source: Field Survey (2004-05)

Note: Blank columns in the Table denote nil.

Table-1 indicates that, 10 per cent belonged to landless, 34 per cent belonged to marginal farmers, and 29 per cent belonged to small farmers. Thus the small and marginal farmers together formed around 63 per cent of the farmers. The medium farmers constituted 14 per cent of the farm households. By contrast the large farm households constituted 13 per cent of farm households. Thus, majority of the PP members belong to the marginal and small farmers. In the village, there are some groups of 2-3 farmers operating their personal lift. Apparently, they belong to the well-to-do segments of land holding hierarchy. On the contrary, small and marginal farmers can not afford to invest in private lift schemes, as they are short of surplus capital. SC and ST population together constituted 46 per cent of the total house holds and rest 54 per cent belongs to other castes population. Thus there is biased towards upper classes in terms of membership.

Table-2 indicates that the average size of family among the member was 5.24. It is as low as 4.20 in cases of large farmers and as high as 5.85 in cases of marginal farmers. Thus the family size decreases with the rise in the status of household. The average number of male member in the family was 2.77 and that of female member 2.47 among the member of PP. There are some variations among different size class of PP member. Level of education of the head of the house holds has been classified into illiterate and literate. The level of literacy among the head of the household has been given in col. 8 of the Table- 2. It is seen that 35 per cent of the head respondent were illiterate among the PP members in aggregate. The composition of workers in a household is important as far as the socio economic condition of a household is concerned. Table- 2 shows that, out of the total number of workers 87 per cent are male. It is observed that percentage of male member increases with increase in class size. In the landless group 62.34 per cent are male working members, whereas in the case of marginal farmers is 89 per cent and small farmers is 95 per cent. On the other hand in the case of medium group farmers all the working members are male, there is no female participation. Thus it is observed that as the class size increases, the working member of female percentage decreases. 33.66 per cent of the working female member contributes in the landless group, whereas it is 11 per cent and 5 per cent in the case of marginal and small group. By contrast, it becomes nil in the case of medium and large farmer group.

The quality of houses of PP members is provided in col. 9-11 in Table-2. The residential arrangements of households are influenced by their ability to generate surplus. Utilization of that surplus contributes for the better quality of house. Generally a person will likely to construct better quality of house, if they have surpluses. There will be surplus, if that person concern has more production and less family member. It is observed that the better quality of house facilities will be taken by those members who have more land under Pani Panchayat. Table- 2 shows that majority that is 49 per cent of the households ate thatched, which are less quality. All the members of the landless group possess this type of house. Hardly 18 per cent are pucca houses and 33 per cent are kuchha house. It is observed that the medium farmer group contains 70 per cent pucca house and 30 per cent kuchha houses, whereas the small farmer group contains 55 per cent thatched, 20 per cent pucca and 25 per cent kuchha. Thus we see that, with the increase in size of holding the quality of the house increases. There is no provision of electricity in the house belonging to landless group. Rest all the members of the PP though marginal, small and medium have provisions of electricity. By hook or crook their houses are electrified.

3.3 Distribution of Ownership of Land Patterns among different categories of Households

The pattern of ownership of land holding among member of PP is provided in the Table- 3. The average area owned per households was 4.55 for the overall PP members. As mentioned earlier, the landless labourers have no land of their own. The average size of land owned for marginal farmer was 1.39, and that of small farmer was 3.86. On the other hand, for the medium farmer it was 7.40 and for large farmer it was 14.89. The analyses of distribution of ownership of land revealed that there is high inequality of land among different group. It is seen that landless farmers have increased their operated area by leased in land and the medium farmer who could not cultivate their land themselves have given leased out. Thus given the inequality in the land ownership, it is expected that many land-poor households would try to lease in land to expand their size of plot. In such a case the distribution of operated area would be different from that of owned area. The distribution of operated area among different group of households including that of landless tenants is given in the Table- 3, column 6 and 7. It is seen that there is slight variation in the distribution of operated area in comparison with that of owned area. Landless households cultivate about 1.14 per cent of the operated area.

Irrigation facilities are important for crop production and it assures yield of crops. The average size of PP land to operated land is 2.58 whereas to own land is 1.77. This is because many farmers have leased in land under PP. The marginal farmer has 1.69 whereas the small farmers have 3.12 lands under PP. The landless farmers have also leased in land under PP and are 0.75 whereas the medium farmer has 3.75 and the large farmer has 5.25. Likewise the average Non-Pani Panchayat land has shown in the Table- 3 column 14 and 15.

Table- 4: Cropping Pattern &Cropping intensity by different size groups under Pani Panchayat

Size class of Land holdings (in Acres)	No. of HH	Average Gross Cropped area under PP (in acres)	Of the total Gross Cropped of Kharif, per centage of area devoted to Paddy	Of the total Gross Cropped of Rabi, per centage of area devoted to Paddy	Cropping Intensity (CI) [☞]
1	2	3	4	5	6
0.00-0.00	07	1.05		100	200
0.01-2.50	24	3.11		100	200
2.51-5.00	20	5.56		100	200
5.01-10.00	10	6.66		100	200
10.01 & above	09	7.86		100	200
Overall	70	4.82		100	200

Source: Field Survey (2004-05)

☞ Cropping intensity = [Gross Cropped Area (GCA)/Net Sown Area (NSA)] * 100

3.4 Cropping Pattern, Cropping Intensity and Production of Output among the Farm households

In this section we analyse the cropping pattern adopted by different categories of households among the PP members. It also discusses the cropping intensity of cultivated land among these households in their operated area. A discussion on cropping pattern and cropping intensity is important because it has bearing on demand for PP by the cultivators. For instance, there is certain crop like HYV paddy, which requires more fertiliser in comparison with other crops. Similarly cultivation of vegetables also requires high dose of chemical fertiliser. To show the average gross cropped area and cropping intensity of the PP member two Tables (4&5) were given. These Tables are provided because those members have land both under PP and also under Non-Pani Panchayat. A peculiar situation is noticed from the Table-4 that, under PP the overall cropping intensity among the member is 200. The cropping intensity for all types of farmers is equal. In this type of land, only one crop is produced that is paddy. Here farmers grow paddy in both the Kharif and Rabi seasons, since through the formation of PP water is provided throughout the year.

Table- 5 shows that though the PP members have land outside the PP, their overall cropping intensity is 222.77. Out of the total gross cropped area, 91.12 per cent of it is devoted to paddy followed by pulses (3.59 per cent), Oilseeds (2.26 per cent), vegetables (1.97 per cent) during Kharif seasons. On the other hand during Rabi season the same percentage that is 91.12 per cent devoted to paddy followed by pulses 3.60 per cent, oilseeds 2.31 per cent, and vegetable 1.97 per cent. So there is a multiple cropping done here.

Paddy is the major crop in both the Kharif and Rabi season. There is small crop diversification. Thus in both the Table 4&5, it is observed that paddy is the dominating crop. When both the Tables are compared, it is seen that the cropping intensity of area under PP scheme is lower than the Non-Pani Panchayat land. It may be due to the reasons for mismanagement or some other reasons like quality of land location. It appears that despite irrigation facilities available, the cropping intensity is generally low among all categories of household.

3.5 Crop Income per Household

This part carries a discussion on the average crop income earned by different categories of farm households. It also described the composition of income coming from different varieties of crop produced by the farmers. The expenditure incurred by different categories of farmers in order to produce this crop has not been deducted from the gross income. In view of this the income discussed here is rough indicator of the living condition of the farmers. A discussion on the income derived from the farm activity is important because it will indicate whether a farmer has sufficient amount of income to be able to live in a condition better than the previous condition that is before the formation of PP.

The average annual income is derived from both Kharif and Rabi crops. In irrigated area, farmers have cultivated crops both in Kharif and Rabi season. It is important to note that, income derived per acre of paddy cultivation during the Rabi season is higher in comparison with per acre of income earned in the Kharif season. This is due to the fact that the risk and uncertainty associated with crop production in Kharif season is relatively higher and hence total output produce is lower.

Table- 6 shows both the average amount of crop income earned by members under PP and than by same member under Non- Pani Panchayat. It can be seen from the Table that the average amount of income earned by members having land under PP was Rs. 44,888.57. It was as low as Rs.12, 510 in case of landless farmers who have leased in land and as high as Rs.93, 450 in case of large farmers. In case of marginal farmers it was Rs. 22,620, Rs. 48,990 for small farmers and in case of medium farmer it was Rs.69, 090. So the annual income increases with the increase in farm size. It is noteworthy that, monthly income for average members was about Rs. 3740.72. Land under PP produces only paddy. So paddy constitutes the total income.

Whereas the same members having land under Non- Pani Panchayat area, the average income came from that land is Rs. 18,712.09. Here also the average crop income is increasing with increase in farm size. The monthly income for average member was Rs. 1559.34. The Table- 6 also depicted the composition of income coming from different crops. The composition of income from various categories of households revealed that about 90.18 per cent of the crop incomes have come from paddy cultivation, followed by pulses (3.58per cent). Contribution of vegetables is about 3.32 per cent followed by oilseeds (2.10 per cent) and others 0.82 per cent.

It appears that the members of PP household have derived more than half of paddy cultivation in both Kharif and Rabi season. The analyses of pattern of income generated from crop production revealed that, the average per household income derived from crop by different categories of households having land in the Non-Pani Panchayat is very low. From this we infer that the marginal and small farmers having land under Non-Pani Panchayat should try to bring their rest of land under PP scheme. By doing this they will increase their average per household income.

Table- 5: Cropping Pattern & Cropping intensity by different size groups under Non- Pani Panchayat

Size class of Land holdings (in Acres)	No of HH	Average Gross Cropped area under Non-PP(in acres)	Of the total Gross Cropped of Kharif, per cent of area Devoted to						Of the total Gross Cropped of Rabi, per cent of area devoted to						CI
			Paddy (in per cent)	Pulses (in per cent)	Vegetables (in per cent)	Oil seeds (in per cent)	Others (in per cent)	Total	Paddy (in per cent)	Pulses (in per cent)	Vegetables (in per cent)	Oilseeds (in per cent)	Others (in per cent)	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.00-0.00	07	0.15	3.47	-	-	-	-	3.47	3.47	-	-	-	-	3.47	201
0.01-2.50	24	1.45	15.52	1.57	1.00	1.26	-	19.35	15.52	1.37	0.87	1.18	-	18.94	210
2.51-5.00	20	2.53	18.69	-	-	1.00	-	19.69	18.69	-	-	-	-	18.69	247.44
5.01-10.00	10	3.45	21.26	2.02	0.97	-	-	24.25	21.26	2.23	-	1.13	1.00	25.62	236.55
10.01 & above	09	5.36	32.18	-	-	-	1.06	33.25	32.18	-	1.10	-	-	33.28	205.55
Overall	70	2.41 (168.5)	91.12 (153.52)	3.59 (6.06)	1.97 (3.32)	2.26 (3.81)	1.06 (1.79)	100 (168.5)	91.12 (153.52)	3.60 (6.06)	1.97 (3.32)	2.31 (3.90)	1.00 (1.68)	100 (168.5)	222.66

Source: Field Survey (2004-05)

Note: i) Figures in the parentheses indicate the absolute figures in acres.
ii) Blank columns in the Table denote nil.

Table- 6: Average amount of crop income earned by different size group of members under Pani Panchayat and Non Pani Panchayat Land

Size class of Land holdings (in Acres)	No. of HH	Average crop income per HH under PP land (in Rs.)	Paddy Contribution (in per cent)	Average crop income per HH under Non PP land (in Rs.)	Paddy Contribution (in per cent)	Pulses Contribution (in per cent)	Oilseeds Contribution (in per cent)	Vegetables Contribution (in per cent)	Others
1	2	3	4	5	6	7	8	9	10
0.00-0.00	07	12510	1.08	1820.08	1.20	-	-	-	-
0.01-2.50	24	22620	15.20	9810.59	10.25	1.43	0.56	1.14	-
2.51-5.00	20	48990	25.18	14711.81	18.89	-	1.54	2.18	-
5.01-10.00	10	69090	33.50	35440.6	24.66	2.15	-	-	0.82
10.01 & above	09	93450	25.24	45890	35.18	-	-	-	-
Overall	70	44888.57	100per cent	18712.09	90.18	3.58	2.10	3.32	0.82

Source: Field Survey (2004-05)

Note: Blank columns in the Table denote nil.

4. Water Rights, Land Rights and Pani Panchayat

This section concentrated on the maintenance of water rights, land rights in PP, farmers' assessment of PP, and reasons for explanation of the non-utilisation of the estimated area of PPs.

The beneficiaries of PPs are only those who have lands [see section 4 (i) Pani Panchayat Act 2002]. That means it based on ownership of land/rights in land. It technically demonstrated that the poor/the landless could not be given an access to water, which is a common property resource. It is unbelievable to expect a landless labourer to invest in PP in the hope of future benefit that someone might grant him sharecropping rights. For the landless, still 25 per cent of the project cost is too high to be invested in a PP. This demonstrates the impracticability of the provision to grant water rights to the landless. But rainfall belongs to the entire village community and all must have equal access to this water. The rights in land are rigid and inflexible and there is a basis inequity in the means of production and social structure. Earlier all the poor had given equal access to water, which in fact can alone sustain our traditional water bodies. Thus, water was possible to share in relation to the needs of subsistence and it could counter the inequality based on the rights on land. This is how the water as a common property resource, developed as a community asset to protect the interests of the entire community. Traditionally, access to water was to free to every body and not in relation to the rights in the lands. After PPs came into picture, the members who have rights on land, have only rights on water, is likely to give rise to a '*Panidar*' (water lords) class. Hence, natural rights for irrigation water become insecure and ineffective.

Orissa Chief Minister told 'we want to hand over control to the community, to the farmers themselves'. But not quite the way things are working out on the ground. In the real world, community control water is now a cover for private control. P. Sainath (during his visit to Aunli project, 2002) adds the concept of 'Panchayat' is meant to be democratic one. But there is no farmer in it at all. People don't participate in the scheme. Some big farmers have captured the whole thing. This PP idea has failed totally in all visited area and so too in all of Orissa. It doesn't make sense socially, institutionally, culturally, economically and politically. Water is becoming private property. If we look at the principles of PP from the point of view of water as a common property resource, then we should keep in mind that water rights are given to every one including landless, women and every one has equal right to share this common natural resource (For further detailed discussion refer P.Sainath, 2002).

4.1 Maintenance of Water Rights in Pani Panchayat

The PP committee are not concerned with the maintenance of water rights for the members of the command area or with the protection of the rights against intrusions from outside the system. There are some water shares for the landlord. There is no any relation between the size of the individuals land holding and the number of water shares that he holds. Land and water are separate entities. There is not such a situation as one can sell one's share of water or buy water from a shareholder.

4.2 Impact on other Sources of Water

Substantial area in Orissa is irrigated by sources other than canals, tanks and lift points. Rivers (by manual lift), dug wells, springs, and other traditional water harvesting structures are quite common in tribal/mountainous tracts, dry-land areas of Western Orissa and in all

those areas where canal irrigation has not reached. With the setting up of the Water Service Agencies (WSAs-an euphemism for Private companies trading in water) it is feared that slowly the entire water resources of the State, zone after zone, would be usurped by these WSAs through creative interpretations of the agreements signed for the purpose. Framers then would be heavily charged for drawing water from the canals, as according to the government's Water Policy PPs would be accountable to the WSAs and the Government would be only playing a mediatory role without any interference in pricing of services as is the case presently with the power sector reforms. Further people would have to pay service charges for drawing/using water from their own wells/ponds/other water bodies as the WSAs would claim ownership of the entire water resource under their geographical jurisdiction as happened in Bolivia and Argentina.

4.3 Farmers' assessment of Pani Panchayat

Water supply is not fully guaranteed. Disputes are due to insufficient water. Old and unlined canals exaggerate this trouble further. Necessary on-farm development works were not carried out in the village and improved methods of irrigation were not taught. PP also desires support with other inputs. Currently, non-availability of agricultural inputs on time, limit farmers returns. Production losses are claimed to be a contributory factor to defaults in payment

Only 42 per cent of the farmers surveyed knew the name of the PP President, hardly any one knew the names of managing committee members (See Table-7). The awareness about the formation of formal PP in the village was less (30 per cent) [Fig.2]. Many farmers had no idea about the PP Programme. Most of them had very little information about the activities of the PP. 78 per cent of the farmers responded that there was no change in area irrigated after PP formation (fig.3). With regard to the woman participation in the PP activities, 82 per cent responded negatively (fig.4). The claim for better control device like installation of sluices, repairs of shutters is replicated in the responses of the farmers surveyed during the field work on the changes in the water availability after formations of PP. 75 per cent of the sample farmers recommended the installation of shutters to improve regulation and many i.e. 66 per cent also wish for disciplinary action against violators. Technical structures like shutters had been installed at these points during the initial stages for controlling the flow into these inlets. The flow could be reduced or totally cut off depending on the water available and the requirements of equal distribution within the command areas. This was done through instituting a system of rotation of water supply. Institution functioning of the rotation system however requires complementary technical function of the control structures, unauthorized withdrawals of water by upstream farmers using engines for pumping water, further accentuate the unequal distribution, which is to some extent inbuilt in the delivery systems due to increased losses route. This has resulted in continuation of the head tail discrimination in access to irrigation water from public sources due to systemic and technical features as well as the violations of rules of water distribution. 86 per cent of the farmers surveyed responded that, there was no change in per acre yield rice due to PP (fig.5). Majority of the farmers (72 per cent) responded that, maintenance after the formation of PP was also remained same (fig.6). Again with regard to the availability of water, majority of the farmers (65 per cent) responded that there is inadequacy of water (fig.7).

The members had many other problem regarding the administration such as Government is sanctioning Rs. 5000/- to the PP members as electric bill, but the newly formed PP were sanctioned Rs. 10,000/- as electric bill. Secondly they are paying to the Rs.100/- as water charge and they are also paying Rs. 500/- as water charge to the PP. They also perceive that

in the name of PP rich and power full may forcibly collect water taxes from helpless villagers.

4.4 Explanation for the Non-utilisation of the Estimated Area of PPs

In almost many cases, the initial formalities have been concluded. There is no follow-up action due to lack of motivation and leadership amongst the members. In some situations the irrigation water does not reach up to the far off fields either because the intermediary non-members do not allow the watercourse or the lands is at a higher elevation. In few cases, it is observed that some of the technical decisions were wrong and hence even though there is relatively an easier availability of water, the water lifting mechanical devices have a limited capacity and to that extent the intensity of farming over the two/three seasons in a year cannot be achieved. In the absence of right to decide on dead storage, the occupational groups, may not have incentive to participate, leads to inefficient and unutilisation of PPs.

Table-7: Farmers Responses in the Pani Panchayat field study areas

Sl No.	Question Asked	Options	Response as per cent
1	Election/Selection of PP members	Fair	35
		Unfair	65
2	Maintenance after PP was formed	Same	72
		Worse	---
		Distinct improvement	28
3	Changes in Area irrigated after PP formation	Yes	22
		No	78
4	Change in Per acre yield rice due to PP	Yes	14
		No	86
5	Have you been paying water dues as per	Revised rates	28
		Old rates	34
		Not paying	38
6	Suggestions for controlling water distribution	Installation of Shutters	75
		Disciplinary action	66
		Miscellaneous*	
7	Whether woman should involve in PP activities	Yes	18
		No	82
8	Your preference is for	PP	45
		Irrigation Dept. Personnel	18
		Traditional Irri. Institution	23
		Indifferent	14
9	Do you know the name of your PP president	Yes	42
		No	58
10	How many General Body (GB) meetings have been held in your PP	Two- Four	18
		More than four	8
		None	34
		Do not know	40
11	Were you informed about the GB meetings and did you attend	Informed & attended	8
		Informed but did not attended	22
		Not informed	70

12	Are you aware of formal PP functioning in the village	Yes	30
		No	70
13	Water availability	Adequate	35
		Inadequate	65

Source: Field Survey (2004-05)

* Controls necessitate not only for letting the water in but also for preventing the flow.

Note: Blank columns in the Table denote nil.

Fig.2

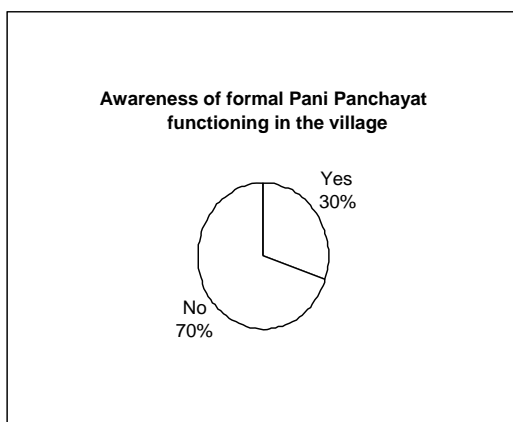


Fig.3

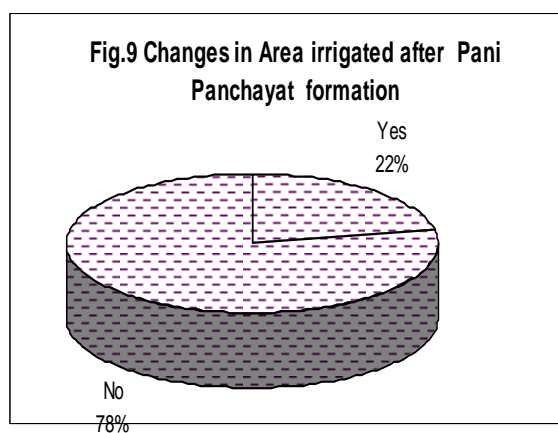


Fig.4

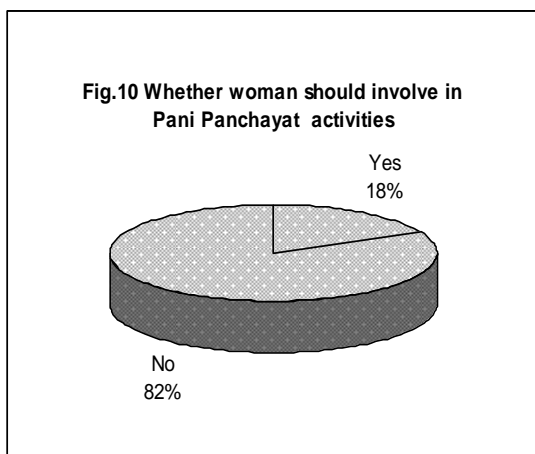


Fig.5

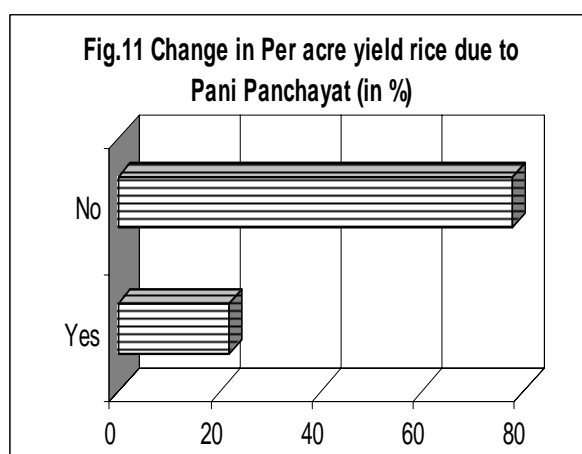
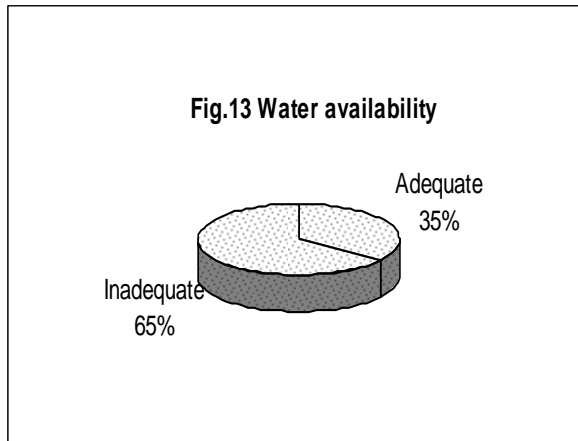
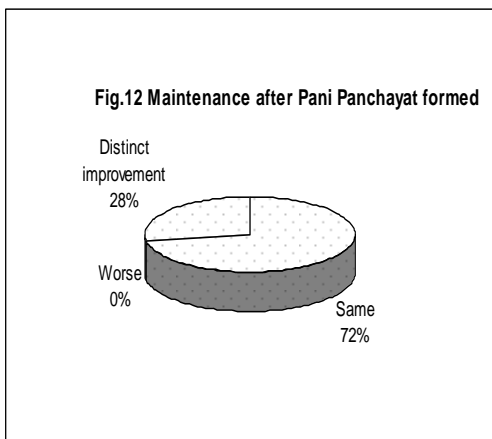


Fig.6

Fig.7



Concluding Observations

An analysis of land holding pattern reveals that majority (63 per cent) of the PP members belongs to the marginal and small farmers. The proportion of medium farmers and large farm households constituted 14 per cent and 13 per cent of the farm households respectively. The category and caste-wise distribution of households reveals that there is biased towards upper classes in terms of membership. An unusual situation is observed that, under PP the overall cropping intensity among the member is 200 per cent. The cropping intensity for all types of farmers is equal. Paddy is the only one major crop, which is produced in both the Kharif and Rabi seasons, since through the formation of PP water is provided throughout the year. Despite the fact that the PP members have land outside the PP, their overall cropping intensity is 222.77 per cent. While comparing cropping intensity between PP area and Non-Pani Panchayat area, it is observed that the cropping intensity of area under PP scheme is lower (i.e. 200per cent) than the Non-Pani Panchayat land (i.e. 222.77per cent).

The awareness about the formation of formal PP in the village was less (30 per cent). Many farmers had no idea about the PP Programme. 62 per cent of the small farmers are not satisfied with the functioning of PP Committee. The State should act as a facilitator not controller. PP do not imply that the state would completely withdraw from irrigation, but would continue to provide critical services, particularly water supply at main delivery points, providing information, training and accounting are required to support PP. The poor/landless should have the right and access to water and this right should be linked with his right to employment. After PPs came into picture, the members who have rights on land, have only rights on water, is likely to give rise to a 'Panidar' (water lords) class. Hence, natural rights for irrigation water become insecure and unsuccessful.

From the forgoing discussion we can conclude that the PP as regulatory institutions in charge of water distribution on equitable basis, their performance has been reasonably weak and unsuccessful. This endures unfavourably on their capacity to generate resources through collection of water cess. Researchers have drawn up a strategy for policy makers to ensure IMT programs become more pro-poor stressing the need to clearly define the rights of farmers, raise awareness of these rights, reform the election process, and monitor participation in water user authorities.⁵ ¹ Despite the fact that the irrigation agency in Orissa

⁵ For detail discussions, see The Water Policy Briefing Series (www.iwmi.org/waterpolicybriefing).

has taken policy decision to encourage farmer's participation and attempts are underway to motivate farmers to form WUAs, the farmer's response in this regard is not up to the level of satisfaction (Swain; 2000: 128).

It is also argued by Swain (2000) that farmers will be coming forward to form WUAs and ready to take up the additional responsibility if they are convinced that benefits due to participatory management will exceed their cost of participation. As most of our farmers are not educated and lack vision to comprehend to the future benefits due to participation, special care should be taken while motivating the farmers. They have to convince that the benefit due to participation will be substantial, tangible, quick yielding and sustainable. Though water is the most crucial input required for plant growth, the productivity impact of irrigation depends on use of other yield enhancing complementary inputs like HYV seeds, fertilizer, manure and modern agronomic practices. Therefore other agricultural inputs should be made available to the farmers in time and as per requirement through WUAs. The farmers having difference political affiliations may have conflict in interest and different of opinion. Learning by doing approach should be followed to determine the model and modalities of forming WUA⁶².

Even though PP has been initiated and endorsed in the State for more than a couple of years, the acceptance of the model have been lethargic and scattered. There is no promptly accessible data to evaluate this performance. As a whole PP is an unexecutable and unacceptable. PP is not in the interest of the people. There are so many constraints like selfishness, illiteracy, no interest due to big landowners, which hinder for the improvement of PP. Therefore the Government should review its decision of making the availability of irrigation water conditions to the formation of PP. Many registration actions of PP are complex and long, raising the costs of participation for the farmers. Simpler procedures are needed that still provide the PP organisations with sufficient legal standing to deal with government agencies, contract with private firms, contractors, and control resources within the group.

A detailed action plan should be prepared in consultation with the water users through Participatory Rural Appraisal method. A feasibility study should be under taken by examining the caste class conflict, groupism, political differences and history of confrontation and conflict if any. It is necessary to apply bottom-up approach instead of top-down for sustainability. There must also be mechanisms to ensure that the benefits of the project are equally distributed to all concerned stakeholders.

Appendix **Profiles of the Selected Pani Panchayat (PP)**

Name of the PP:	Vir Bajrang Bali Pani Panchayat (Lift- I & II)
Location:	Village: Bandhapali Gram Panchayat: Kardola, Post office: Chiplima Block: Dhankauda District: Sambalpur, State- Orissa
Age of the system:	Old registration 1996-97 as WUA, Newly formatted in 2001-02 as PP
Type of the system:	Lift Irrigation (LI)

⁶ For further detail discussion in this context see (Swain; 2000)

Total No of LI Points: Lift I and II

Name of the Source: Mahanadi River

Area in acre (ayacut): 123.66 Acre

Horse Power Used: 15 HP (Horse Power)

Office Bearers: Total No. of PP members: 63 No. of Committee members: Four

President Election: Nomination

References

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ROOPA MADHAV, IRRIGATION REFORMS IN ANDHRA PRADESH: WHITHER THE TRAJECTORY OF LEGAL CHANGES?

Introduction

A key focus area of water sector restructuring in the country is irrigation. Being the largest consumer of water, irrigation has become the focus of reforms and restructuring in several parts of the world, in the past two decades. Shifting paradigms of governance, the need for agricultural growth and increasing demand for water have been the motivation for the changes, in several countries. Notably, two contrary identifiable forces determine the path that the changes tread – one seeking to promote commodification of the resource and the other, primarily, driven by concerns around water security and water conservation.

Nearly a decade after the restructuring was initiated in India, an evaluation of the trajectory of the political economy of the legal changes is necessary. Some of the salient features of the reform process in the country may be summarized as participatory management of irrigation systems, streamlining cost recovery to further financial sustainability, setting up of independent water regulatory authorities, rationalisation of irrigation bureaucracies and dismantling of water public sector. An essential component of the restructuring process is the use of law and the legal processes to build the framework within which the restructuring operates. Ironically, though community involvement and management of natural resources is at the core of the restructuring, the approach to incorporating the law and policy has largely been statist, bureaucratic and opaque.

Eschewing a gradual approach to the restructuring, the State of Andhra Pradesh was the first to effect legal changes, to enable institutionalization of water sector restructuring. In keeping with the World Bank ‘big bang’ approach, the state of Andhra Pradesh enacted three new legislations after 1995, to provide the supportive legal framework, seeking to reorder the institutional structures of the irrigation sector and to regulate the groundwater usage. Much has been written, both documenting and analysing these ‘reforms’. This paper attempts to focus exclusively on the legal regime that is envisaged by the two new enactments, enabling the restructuring of the irrigation sector in Andhra Pradesh.

In its first part, the paper discusses the impetus and rationale for the initiation of the legal restructuring to the water sector in Andhra Pradesh. In the second part, the paper examines the trajectory in debates demanding reforms within the irrigation sector in India and compares it to the reality of the reforms carried out by the State. Based on this, the paper argues that legal reforms to the irrigation sector are long overdue, but the suitability of the framework adopted by the Andhra Pradesh Government, premised as it is on the ‘Participatory Irrigation Management’ model, needs critical evaluation. Relying on various studies, the paper, in the third part demonstrates that the legal framework disregards the socio-economic and political context within which it is situated, and that ‘participation’ through effective devolution of powers and functions, has not been prioritized. In the fourth part, the paper examines the impact of these changes on the ‘rights discourse’ and the jurisprudence informing the new legislations, while simultaneously revisiting the ‘rights’ debate within the irrigation sector. In the final part, analyses the reform process and provides a tentative hypothesis for effective reforms in the irrigation sector.

1. Impetus and Rationale for Legal Reforms in Andhra Pradesh

1.1 Background

The irrigation sector in the country has been plagued by several problems. Various studies have been carried out identifying the issues that need to be addressed. Firstly, the returns on the investment in the sector are not commensurate with the costs incurred for the projects and their maintenance and operations¹. Thus, financial sustainability of the irrigation sector has been a recurrent theme is examining the feasibility of the projects. Secondly, irrigation sector being the largest user of water, the productivity and efficiency in the use of the resource and its influence on the environmental degradation has been a growing concern. Thirdly, the irrigation sector has been plagued with poor governance and management, characterized by lack of accountability, transparency, democratic participation, which impact issues of sustainability and equity in irrigation.

Andhra Pradesh is endowed with very rich water resources and has three large rivers Krishna, Godavari, Pennar, Nagavalli, Vamsadhara and several minor rivers. The state is divided into three major agro-climatic zones – the Telengana region, the Rayalseema region and the coastal region along the Bay of Bengal. The major rivers are seasonal with more than 90 per cent of the total flows occurring between June and December. The ultimate irrigation potential from all sources is estimated to be 9.50 mha. It includes 7.30 mha from surface water and 2.20 mha from groundwater.² The major surface irrigation systems in Andhra Pradesh are maintained by the Government, primarily through the Irrigation and the Command Area Development Department. The Revenue Department is in charge of measurement and assessment of irrigated areas and for the collection of irrigated acres and for the collection of water cess for the irrigated areas besides land revenue.³

Andhra Pradesh has no comprehensive legislation dealing with irrigation. The State of Andhra Pradesh was formed in 1953 by separating the Telugu speaking areas from the old Madras state. Later in 1956, Greater Andhra Pradesh was formed by the merger of the Telangana area of Old Hyderabad State with Andhra. The geographical area of Telangana is about 1/3rd and that of Andhra about 2/3rd of the whole state. In Hyderabad State, there was an Irrigation Act of 1357 Fasli (1948) which after the Reorganization of the States in 1956 has been adopted as AP (Telengana) Irrigation Act, 1965, applicable to the Telengana Region. The other enactments include the AP Irrigation Cess Act, 1865 and the AP Irrigation Utilization and Command Area Development Act, 1984.

Systemic problems related to the irrigation sector are prevalent in the State of Andhra Pradesh, too. The net irrigational potential created through large financial investments is under-utilised with a gap of nearly 33%. 'Some of the main reasons for this gap are the non-compliance of farmers to the designed cropping pattern, the poor conditions of the irrigation systems, and the lack of operational plans. In addition to this gap, water distribution within

¹ See generally A.Vaidyanathan, *India's Water Resources, Contemporary Issues on Irrigation* (New Delhi: Oxford University Press, 2006).

² K.V.Raju, 'Participatory Irrigation Management in Andhra Pradesh', in Hooja, Pangare and Raju eds, *Users in Water Management*, 84 (New Delhi: Rawat Publications, 2002).

³ This pattern is generally followed in the Southern states of India, namely AP, Karnataka, Tamil Nadu and in Orissa. In the rest of the country assessment of irrigated area is done by the Irrigation Department. In the states of Rajasthan, Madhya Pradesh, Bihar, Gujarat and Maharashtra even the collection of water cess is done by the Irrigation Department.

the command areas is often neither reliable nor equitable with large differences in water availability between the head and tail end of the irrigation canals.⁴

1.2 Restructuring Process

Irrigation is a state subject under the Indian Constitution. The State of Andhra Pradesh is the first to initiate the irrigation restructuring process in the country. Prior to initiating the restructuring programme, the Andhra Pradesh government published a white paper in June, 1996, outlining the status of the irrigation sector in the state. Spelling out the need for restructuring, the white paper identifies key areas such as (i) decline in net irrigated area; (ii) low irrigation system efficiencies; (iii) low yields and farmer incomes; and (iv) low agricultural growth that need attention, in order to ensure 'sustainable development of the state's water resources.' The World Bank technical paper identifies the causes for the problems as being (i) government dominance and limited user involvement; (ii) poor cost recovery; (iii) insufficient operations and maintenance (O&M) allocations; (iv) deteriorating condition of the irrigation and drainage network; (v) low quality of agricultural extension; and (vi) weak incentives for government agencies to perform⁵. Having identified the specific problems that plague the irrigation sector in Andhra Pradesh, the Government drew up a strategy paper and set out the following objectives for the restructuring process:

- (a) Place the irrigation sector on a sustainable basis through cost recovery;
- (b) Reverse the decline in irrigated area under the existing commands;
- (c) Improve the productivity of irrigated agriculture;
- (d) Strengthened cost recovery for O & M;
- (e) Expansion of effectively irrigated areas in existing systems.

Prior to undertaking the restructuring, two NGOs IRDAS and SONAR, conducted a pilot project in the Sri Ram Sagar project in Karimnagar and the Kakatiya Canal, for promoting farmers participation in management of irrigation systems through Water Users Associations in 1994⁶. The Pipe Committees that were set up under the Irrigation and Command Area Development Act, 1984 were converted into the general body of the Water Users Association through consensus.⁷ The 'success' of these pilot projects provided the supporting framework

⁴ Action Plan for Completion of Irrigation Projects, Irrigation and CADD Department, Government of Andhra Pradesh, 1995.

⁵ The entire irrigation system in Andhra Pradesh is currently being maintained by the Government. There is practically no involvement of the farmers in the maintenance or operations of irrigation schemes. Area under irrigation is shrinking in many of the major and medium commands. By improving the conductor system and drainage network, considerable water can be made available for additional ayacut (irrigated area). Farmers in the head reaches of major and medium irrigation schemes are drawing water far in excess of their allocation and as a consequence, water is not flowing to tail end areas. The Government called for views from the general public on the following areas:

1. Management of irrigation system by the farmers' organizations;
 2. Cost recovery policy, including principle for levy of water charges;
 3. Mobilisation of resources, for completion of on-going and new irrigation schemes;
 4. Improving sector financing and funding of maintenance to ensure sustainability of irrigation schemes.
- Keith Oblitas and J.Raymond Peter, Transferring Irrigation Management to Farmers in Andhra Pradesh, World Bank Technical Report No. 449, October 1999, Annexure 5, World Bank.

⁶ The two pilot projects were funded by the World Bank.

⁷ Author unknown, for details refer to www.iar.ubc.ca/centres/cisar/joshi/j13.html.

for scaling up operations. Relying on the experience gained from the pilot projects, the Government enacted the Andhra Pradesh Farmer's Management of Irrigation Systems Act, 1997 (APFMIS Act). Having no other precedents for such an enactment, this was regarded as unique and several studies were carried out to understand the implementation of enactment. Subsequently, the Andhra Pradesh Water Resources Development Corporation Act, 1997 and the Andhra Pradesh Water, Land and Trees Act, 2002 were enacted. The new legal framework, thus established the water users associations, an apex body to deal with water resources development and a specific authority to regulate the use of groundwater and promote its sustainable use and conservation.

1.3 Need for Reforms

What then was the impetus for restructuring in the irrigation sector? Much of the incentive, funding, spadework and models for the restructuring can be traced back to the drawing boards of the World Bank and several of its partner institutions. Combined with a cooperative political set up in the then Chandrababu Naidu government, a conducive atmosphere for experimenting with irrigation reforms was extant. It is appropriate therefore to examine the contours of the Bank supported AP Economic Restructuring Program that outlined the roadmap for irrigation reforms in the state.

Identifying the need for reforms, the 1997 'Agenda for Economic Reforms' in Andhra Pradesh states that the bulk of the 42 per cent capital allocated to irrigation is utilised for public canal irrigation. But the benefits from the investment have been found to be below the potential as a result of poor efficiency of the public canal irrigation network. The document therefore identifies an urgent need for reforms wherein the strategy adopted would concentrate on raising the efficiency of the existing network with stronger cost-recovery efforts, adequate budgetary allocations for O&M, greater participatory involvement of farmers in irrigation system management, and effective institutional and legal reforms.⁸ The document goes on to identify the factors contributing to the inefficiency in the canal irrigation system.

First, persistent underfunding of O&M works has resulted in rapid deterioration of the network and large conveyance losses. Second, resources are thinly spread over a large number of projects, leading to substantial time and cost-overrun. Third, poor water management has hindered the delivery of adequate, reliable and equitable irrigation. Farmers in the head reaches of major and medium irrigation schemes draw water far in excess of their allocation, and as a consequence, water does not flow into areas downstream. Fourth, under the current arrangements, the public irrigation system is managed and maintained by the government, with adequate involvement by farmers. Fifth, under a legal procedure called localization, the government determines the cropping pattern in irrigated dry areas if public irrigation is used. Irrational localization on individual canals leads to unauthorized water use and inequitable distribution.' (pp 38-39)

The solution as recommended to the Andhra Pradesh Government by the World Bank was to focus on cost recovery and decentralizing irrigation management by vesting greater powers and responsibilities in water users. It was believed that this would lead to improvement in quality and cost efficiency of irrigation management. 'The process was perceived to be a cost

⁸ Andhra Pradesh: Agenda for Economic Reforms, World Bank Report No. 15901-IN, January 16, 1997, 37.

saving venture for the government wherein the released resources could be used for raising investment in irrigation elsewhere or on the main system.’⁹

The funding for the first phase of the reforms was provided by the World Bank. The Irrigation Component of the Andhra Pradesh Economic Restructuring Project (APERP-IC) provided a sum of US \$ 142 million to the Government of Andhra Pradesh’s irrigation sector reform programme. The APERP-IC’s main components were: (a) irrigation performance improvement (which includes rehabilitation and recurrent maintenance of the States irrigation schemes); (b) scheme improvement/modernization and farmer turnover (SIFT) - piloting of more intensive modernization on selective projects; (c) agricultural intensification – intensification of agricultural extension services, capacity building of agriculture department staff, dissemination of information and productivity-enhancing agriculture technologies, and on-farm demonstrations; (d) institutional development of farmers organizations and government departments.

While this was the immediate impetus for initiating reforms in 1997, it must also be noted that there have been several suggestions for reform by Commissions set up by the Government to study and recommend changes to the irrigation sector. The need for reforms, therefore, is a long standing demand. With regard to legal reforms in the Andhra Pradesh, a 1982 report stated that the A.P (T.A) Irrigation Act, 1965 ‘defines the water courses and confers powers on the Irrigation Officers for regulation of water, for proper maintenance of water courses and for stoppage of water for certain specified reasons, etc. The Act provides for framing of Rules regulating the period of opening and closing of the channels, distributaries defining localization and prescribing procedures. Rules have not been framed under this Act and for some reason this Act is not being implemented even in the Telangana Region of the State. As a result, in both the regions of the State organized water management in the main system and among the farmers below the pipe outlets did not receive due attention. This has resulted in over-utilisation and mis-utilisation by the upper end or powerful farmers in the systems to the detriment of the weak and tail end farmers. This is also partly because the farmers in the command area of an irrigation system do not have a right to a share of water on an equitable basis.’¹⁰ The faults in the irrigation system and the need for a legal response have been highlighted with regularity for several years now. The Planning Commission and the Vaidyanathan Committee (in 1992) have also recommended reforms to the management of the irrigation systems and have demanded greater farmer involvement. The need for change and reforms is therefore a longstanding need and the subject of a lot of study and debate within the irrigation sector.

In 2006, the World Bank sanctioned a fresh loan amount of 435 million US \$ to take forth the reform project in Andhra Pradesh. The World Bank document stated that: ‘(E)xperiences from both the recently closed projects indicate that further reforms are needed to improve the sector performance on a sustainable basis. These reforms include: (i) adoption of a State Water Policy, (ii) ensuring allocation of annual O&M needs in the budget, (iii) decentralizing irrigation service delivery and system maintenance to WUAs, (iv) adoption of new water management practices/instruments, (v) establishment of regulatory framework in the water sector, and (vi) restructuring/ capacity building of existing Irrigation and CAD Department, GoAP plans to utilize the proposed Andhra Pradesh Water Sector Improvement Project

⁹ Jasveen Jairath, *Water User Associations in Andhra Pradesh*, 16 (New Delhi: Concept Publishing Company, 2001).

¹⁰ Report of the Commission for Irrigation Utilisation, Government of Andhra Pradesh, November 1982, Chairman Syed Hashim Ali, pp 3-4.

(APWSIP) as a strategic opportunity to broaden/deepen state wide sector reforms, and also to develop a modern and sustainable irrigation/multi-purpose scheme management model, to be used in other projects in the state.’¹¹

The document goes on to state that the Government of Andhra Pradesh aims to ‘initiate some fundamental and bold sector reform initiatives, which could potentially have a substantial impact on the approach to water sector management in the state.’ The reforms envisaged are:

- (a) All efforts to complete the development phase of the water resources in the state, GoAP also plans to simultaneously utilize this period to put in place an enabling policy, legal and institutional framework/arrangements for sustainable management of irrigation/water services.
- (b) GoAP has chosen to modernise the management practices of the Nagarjuna Sagar Scheme (NSS) which is a large multi purpose water project, which generates 840 MW of hydro power, supplies water for industries, urban and rural drinking water, and irrigation to cover about 1 million hectare of command area. NSS also supplies regulated river water for use in down stream project. This is being attempted as a pilot project with efforts at replicating it in other projects in other states.

2. Trajectory of Policies and Debates Pertaining to Water Sector Reforms

2.1 Policies in the Country

In discussing the debates, it is important to state that the policy statements, studies and planning have largely related to the large and medium irrigation projects. Tanks and other minor irrigation projects have only recently come within the purview of policy analysis and concerted planning. The emphasis on irrigation also changed with the transformation of irrigation from a ‘protective’ (against floods and droughts) to a ‘productive’ enterprise, in the late 19th century. Greater emphasis was placed on planning and financing of irrigation projects, both by the Government and financial institutions.

Evidently, there has been a gradual decline of the public sector institutions that provide the water service, more particularly, irrigation. The total plan expenditure on irrigation has reduced from 22 per cent in the first five year plan to 10 per cent in the early 1990s. ‘The slowdown in irrigation investments, especially by the public sector, is sometimes attributed to a response to a relatively comfortable food situation in the country and declining world prices of grains, especially rice, as well as opposition to the displacement of people for irrigation dams and negative environmental effects of irrigation projects. On the other hand, the capital cost of creating irrigation potential through major and medium irrigation schemes increased from around Rs. 40,000 per hectare of potential created during second half of 1970s to above Rs. 190,000 per hectare of potential created during 1990s, at constant 1995-96 prices.’¹²

Tracing the history of the reform debates in India, upto the 1990s, Mollinga and Bolding identify the triggers for each phase of reform. They trace the reforms in the mid-60s to being largely a result of the experience gained from the field. Performance problems, particularly in

¹¹ Project Information Document, World Bank Report No. AB2508.

¹² Gulati, Meinzen-Dick, Raju, *Institutional Reforms in Indian Irrigation*18 (New Delhi: Sage Publications, 2005).

the canal irrigation systems such as not all areas created were actually irrigated; yields were below projection; maintenance below standards; widespread waterlogging and salinity and non-recovery of costs. To address these issues, a series of intervention programmes were designed to improve performance and one such approach was to improve farm development at individual farms, making the canal system reach every farm and improving irrigation methods. Thus the focus in this early period was to improve the use of water at farmer level.

The next phase of reforms occurred with the realization that farmer level problems are caused partly by main system management. So in the 1980s the scope of the debate and intervention gradually moved up the canal system, to include the secondary and primary canals. According to Mollinga and Bolding, in the 1990s, the debate and intervention shifted one more level up. In the 90s it was felt that the irrigation sector requires reorganization at the agency, policy and legal levels, to enable the solution of performance problems at system and farmer level. The reform therefore sought to focus on establishing river basin management organizations for integrated water resources management. Hence the changing debates have also enlarged in scope from merely technical improvements to increased farmer participation to the present day interventions for greater self-governance and accountability.

Mollinga and Bolding also examine the driving force behind the reforms and three key sources have been identified as being instrumental in the 1990s restructuring process. They state:

The first source of the irrigation reform drive of the 1990s has thus been a learning process within the irrigation sector, which has produced an increasingly comprehensive problem analysis of the issues in the sector.

However, this process does not explain the interest in irrigation reform fully. A second source for the interest in the reform agenda of the 1990s is that of external pressure by development funding agencies. Organisations like the World Bank and the Asian Development Bank have made their loans conditional on particular reform packages. Their agenda is strongly flavoured by the neo-liberal development paradigm. It emphasizes a reduced role of the state and a larger one for the private sector, economic pricing, financial autonomy of irrigation agencies, and the devolution of management responsibilities to lower levels.

A third source for reform is the internal developments in the nations and states concerned. Many suffer from fiscal/budgetary crises, and find the subsidies to irrigation increasingly difficult to continue and justify. In some countries there has been increasing public criticism of particularly large-scale canal infrastructure development generally has considerably reduced the status that irrigation enjoys. Finally, and more simply, the problem of decaying systems, and the danger of total loss of the investment in the infrastructure, has induced some governments to opt for more fundamental reforms.¹³

The post independence period witnessed several studies that recommended reforms within the irrigation sector. The Second Irrigation Commission in its 1972 report laid emphasis on reforming the structure of administration of the sector including water rates, investment and return on investment. The Commission dealt with the issue of water rates in some depth and recommended 5-12 per cent of the gross-value of output as the criteria for fixing the water

¹³ Mollinga and Bolding eds, *The Politics of Irrigation Reform* 246 (England: Ashgate, 2004).

rates. The next important reform stage occurred following the World Bank review of the irrigation sector which recommended the setting up of institutions to manage the irrigation projects. This led to the setting up of the Command Area Development Authorities. In 1992, the Vaidyanathan Committee set up to study the irrigation reforms, also recommended extensive changes to the institutional structures governing irrigation systems. Over the five decades, the reform debates have spanned a gamut of issues – financial viability and sustenance, efficiency in water use, institutional issues in administration and future of water resource development.¹⁴

A recurring refrain in the debates about reforms has been the demand for greater participation of the stakeholders, primarily the farmers. The various policy statements also reaffirm this need. As a part of the reform process, the Command Area Development program initiated in 1974, sought to provide for long term support for the implementation of participatory irrigation management. The sixth and the seventh plan documents also reiterated the need for participation of farmers in the management of irrigation. The 1987 National Water Policy sought greater efforts to involve farmers progressively in various aspects of management of irrigation systems, particularly in water distribution and collection of water rates. Further, the Committee on Pricing of Irrigation Water in 1992, recommended farmers participation in the management of irrigation systems. More recently, the eighth and the ninth plan also endorsed the need for farmers' participation in irrigation reforms. The National Water Policy 2002 calls for greater participation of 'users' and 'other stakeholders' in various aspects of planning, design, development and management of water resources schemes. It is suggested that necessary legal and institutional changes should be made at various levels for the purpose and the Water Users Associations and the local bodies such as municipalities and gram panchayats should particularly be involved in the operation, maintenance and management of water infrastructure facilities at appropriate levels progressively, with a view to eventually transfer the management of such facilities to the user groups/local bodies. It must, however, be noted that these policy statements are being made at the federal level

Thus, farmers' participation in irrigation management has been a longstanding demand within India but reforms have been slow in coming. The World Bank strategy for Andhra Pradesh however, views it as the first step in the larger effort at reducing the role of the State in the management of irrigation. The strategy for restructuring contained in the World Bank document may be extracted here:

First, a sector strategy should be developed to guide policies and investment in the sector for efficient allocation of water resources. Tamil Nadu, Orissa, Haryana and Punjab introduced State Water Policies to set priorities and coordinate water development programs. Second, water rates should be increased so that they cover 100 percent of O&M costs. At the same time significant improvement must be made in the quality of service delivery and effective collection. It would be useful to establish a water rates committee to review O & M costs and ensure that water rates are adjusted on a regular basis to cover full costs. It is also important to adjust water rates in conjunction with power rates to ensure regional equity. Third, adequate budgetary provisions should be provided to meet the recommended O & M norms. Fourth, the institutional framework needs to be improved by enhancing planning and management capacity of I&CAD and streamlining its staffing, consolidating the existing Irrigation Acts under a new Act, which reflects the new sector strategy and participatory management and caters for WUAs, and creating scheme-level

¹⁴ A.Narayanamoorthy and R.S. Deshpande, *Where Water Seeps!* (New Delhi: Academic Foundation, 2005).

committees representing all concerned governmental and private parties and empowering them to take all decisions concerning investment, O&M, and staffing within their own schemes and within the framework of the new Irrigation Act. Fifth, efforts to promote the participatory involvement of farmers and transfer of O & M responsibilities at the distributory and minor canal levels to the beneficiaries should be accelerated. The government has already drawn up a program to form Water Users Associations and handover the management to the tertiary canal networks to WUAs to improve efficiency and finances in the sector. In time, water will be supplied to the WUAs on a volumetric basis and associations would have the freedom to decide how costs would be distributed among their members.

The above narrative indicates that reforms in the irrigation sector, and more particularly farmers' participation in irrigation, have been a long standing demand. However, these demands had arisen out of the need to strengthen and improve the public sector institutions involved in irrigation. The reforms that are being carried out presently, starting with Andhra Pradesh, is against the back drop of the larger agenda of rolling back the state, dismantling the public sector and envisaging a regulatory role for the state. These reforms are not, therefore, primarily addressing the problems that are inherent with the irrigation sector but are driven by a larger agenda of liberalization of all sectors of the economy.

2.2 Global Policies

One primary motive can be attributed to the irrigation sector reforms across the world. It is largely driven by the ideological understanding that there is an urgent need to dismantle state control over the sector as they are unable to effectively operate and maintain the irrigation schemes. The solution being experimented with, the world over is the transfer of these responsibilities to water users associations, through a process of Irrigation Management Transfer.

The global debates on reform are largely driven by the financial institutions such as the World Bank. Increasingly, however, there is an engagement by civil society institutions and international bodies such as the UN, slowly transforming the content of the debate. It is therefore useful to examine the strategy and sector papers that have been drawn up by the World Bank and some of the more recent international declarations and covenants.

The World Bank- financed activities aim at higher productivity (more crops, cash and jobs per drop) through a combination of means – economic, institutional, agronomic (cropping patterns, intensification), hydrological (reducing non beneficial evapotranspiration), and ecological (salinity management, water-logging control, deficit irrigation, water harvesting in rain-fed areas). In order to achieve this, the World Bank envisages:

- reducing irrigation subsidies that are extended to farmers in developing countries and ensuring that the farmers pay the full financial costs – operation and maintenance, rehabilitation, debt servicing on existing infrastructure – and the opportunity costs of water.
- promoting and setting up of water user associations so as to empower users to operate and maintain their systems, collect fees, hire professionals and manage water rights.
- modernising and reforming public sector agencies in order to provide for the institutional set up that will aid the functioning for the water users associations.

- addressing the political economy of reforms by engaging comprehensively with the Governments. The strategy is to be aware of temporal and political opportunities that are conducive for initiating and progressing with the reforms.
- once the frame work is in place, the larger agenda will kick in. In the World Bank's words 'Supporting partnerships that focus on the production of new crop technologies. While institutional reforms are crucial, it is evident that the water-environment-food production square cannot be circled with out the development of new generations of crop varieties. Accordingly, a high priority for the World Bank is support to the CGIAR for the development of crops that are less susceptible to droughts, floods and salt, that result in more production per unit of water use, that are less vulnerable to pests and spoilage and that use smaller quantities of water-polluting fertilizers and pesticides.'

The emphasis on the World Bank and its policy may appear unwarranted but it must be acknowledged that several major policy making think tanks and research institutes are linked directly or indirectly to the World Bank, actively carrying forward the agenda set by it. Besides, the World Bank, since the fifties has funded large irrigation projects. In keeping with that larger policy thrust, it continues to fund operation and maintenance of irrigation projects. It must be noted that the present day reforms are linked to this historicity and may have very little to do with the ground realities and the assessed needs for a water sector restructuring.

Though driven by these institutions, the global debate is increasingly being carried out in portals other than these institutions. Debates on human rights, institutional frameworks, socio-political issues and common resources paradigms are inching into policy and law reforms. Though the 1992 Dublin Statement on Water and Sustainable development echoes the World Bank policy thrust, it also acknowledges water as a human right. The Dublin conference identified four guiding principles for action at the local, national and international levels – (a) Fresh water is finite and vulnerable resource, essential to sustain life, development and the environment; (b) Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels; (c) Women play a central role in the provision, management and safeguarding of water; and (d) Water has an economic value in all its competing uses and should be recognized as an economic good.

The right to water is explicitly enshrined in two of the core human rights treaties namely the Convention on the Elimination of Discrimination Against Women, 1979 and the Convention on the Rights of the Child (1989). The right to water as a human right can also be read into existing International Covenants on Civil and Political Rights and Economic, Social, and Cultural Rights. While in the former Article 4 states that 'Every human being has the inherent right to life', the latter contains Articles 11 and 12. Article 11 states that the States Parties to the Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions. Article 12 recognizes the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

In 2002, the UN Committee on Social and Cultural Rights adopted the General Comment No. 15 on the right to water. The Comment provides an interpretation to Articles 11 (the right to adequate standard of living) and 12 (right to health) of the ICESCR, so as to explicitly provide for the right to water as a human right. The General Comment 15 states that the right to water comprises both freedoms and entitlements. 'Freedoms' such as the right to be free

from interference, for example, arbitrary disconnections or pollution of water supplies, and 'entitlements' include the right to a system of water supply and management that provides equality of opportunity for people to enjoy the right to water. The General Comment obligates the States Parties under Articles 2 and 3 of the International Covenant on Economic, Social and Cultural Rights, to guarantee that all Covenant rights are enjoyed both without discrimination and on the basis of equality between men and women. Notably, the comment emphasizes that water should be treated as a social and cultural good, and not primarily as an economic good, and that the manner of the realization of the right to water must be sustainable.

3. Legislative and Institutional Changes

3.1 The Andhra Pradesh Farmer Management of Irrigation Systems Act, 1997

The Andhra Pradesh Farmer Management of Irrigation Systems (APFMIS) Act, enacted in 1997, provides for the establishment of water users associations in the irrigation sector. The Act classifies the irrigation projects as minor (less than 2,000 hectares), medium (2,000 to 10,000) hectares, and major (more than 10,000 hectares) for the purposes of setting up Water Users Associations (hereinafter referred to as WUA/s). The Act divides the area of operation of a WUA into four to ten ('territorial constituencies') determined hydrologically in order to provide for fair representation of all farmers in the WUA. According to the World Bank, this ensures that the management becomes based on water, 'rather than on other boundaries and is more efficient and equitable.'¹⁵

Water Users Associations:

In a bid to reduce the role of the government in the direct management of irrigation systems, the Act provides the framework for the setting up of water users associations. The Water Users Associations is composed of all the water users who are land holders in a water users area and where there is a tenant, then the tenant of the land holder. Section 12 provides that every farmer's organization shall be a body corporate with a distinct name having perpetual succession and a common seal, vested with the capacity of entering into contracts and it shall sue or be sued in its corporate name represented by the chairman or the president.

Substantive rights and duties conferred on the members:

The Act states that the objects of the WUAs shall be to promote and secure distribution of water among its users, ensure maintenance of the irrigation system, ensure efficient and economical utilization of water to optimize agricultural production, protect the environment and ensure ecological balance by involving the farmers thus inculcating a sense of ownership of the irrigation system.

More specifically, the Water Users Associations (at all three tiers) are broadly required to perform the functions of planning¹⁶, regulating water use, collect water charges and raise

¹⁵ K.V.Raju, *see* note 2 above.

¹⁶ *Farmers Organisations*

(a) prepare and implement a warabandi schedule for each irrigation season, consistent with the operational plan, based upon the entitlement, area, soil and cropping pattern as approved by the distributory committee;

resources, maintain records¹⁷ and resolve disputes. Additionally, the water users associations are also required by the act to encourage avenue plantation on canal bunds and tank bunds, to conduct regular water budgeting and to conduct periodical social audit.

Sources of WUA funds:

The Funds for the WUA are sourced primarily from (a) government grants as a share of the water tax collected; (b) funds granted by the state and Central government for the development of the area of operation; (c) resources raised from any financing agency for undertaking any economic development activities in its area of operation; (d) income from the properties and assets attached to the irrigation system within its area of operation; (e) fees collected by the farmers' organization for the services rendered in better management of the irrigation system.

Reports from the ground on the utilization of funds indicate that a number of improvements in the physical structures to improve the irrigation systems have been undertaken by the WUAs but studies also indicate that the inflow of cash has replaced the contractors with the Presidents of WUAs doubling up as contractors to carry out minor maintenance works. It is also reported that the WUAs are unable to recover the 15 per cent farmers' contribution to undertake minor works. Charges of corruption have also been corroborated by field studies.¹⁸

Federating process:

The Water Users Association (also called the Farmers Organisation) is the primary unit of the pyramid envisaged for the participatory management of irrigation. In case of major irrigation schemes, the two tiers above this primary level are the distributory committees for each distributory area and a Project Committee for the project area. All presidents of the water users associations in the distributory area, shall form a distributory committee and all presidents of the distributory committees in the project area shall constitute the general body for the project committee.

An apex committee is also envisaged with wide powers for laying down policies and giving directions to farmers. However, the composition of the Apex committee is not spelt out in the main Act and it is left to the Government to determine the same by notification. In conceptualising the role of the WUAs, the Act fails to take the process of decentralisation to

(b) to prepare a plan for the maintenance of irrigation system in the area of its operation at the end of each crop season and carry out the maintenance works of both distributory system and minor and field drains in its area of operation with the funds of the associations from time to time.

Distributory Committee:

- (a) to prepare an operational plan based on its entitlement, area, soil, cropping pattern at the beginning of each irrigation season, consistent with the operational plan prepared by the project committee;
- (b) to prepare a plan for the maintenance of both distributories and medium drains within its area of operation at the end of each crop seasons and execute the maintenance works with the funds of the committee from time to time.

Project Committee:

- (a) to approve an operational plan based on its entitlement, area, soil, cropping pattern as prepared by the competent authority in respect of the entire project area at the beginning of each irrigation season;
- (b) to approve a plan for the maintenance of irrigation system including the major drains within its area of operation at the end of each crop season and execute the maintenance works with the funds of the committee from time to time.

¹⁷ To maintain a register of landholders as published by the revenue department, a register of co-opted members, an inventory of the irrigation system within the area of operation and to maintain accounts.

¹⁸ See World Bank report, note 8 above at pp 173-174.

its logical end. For the primary level units to actively engage with the process of decision making, it would be important to associate at the State level both to garner information that would aid the decision making process and also to build an understanding of the processes at the State level. Lobbying through a federated unit, would be essential to give teeth to the idea of Participatory Irrigation Management.

Provision for recall:

The Act provides for recall of leaders on grounds of non-performance or any other violations. The tenure of water user associations and their elected representatives is five years. An innovative step, this provision would be an experiment in strengthening democracy.

Irrigation Department responsible to the WUAs:

The Act provides for linkage between the irrigation department and WUAs through appointment of officers who are responsible for implementation and execution of all decisions taken by the WUA. At the WUA level, an Assistant Engineer/Assistant Executive Engineer is the competent authority, the Deputy Executive Engineer is the competent authority at the Distributory Committee level and at the Project Committee level, the Superintending Engineer/Chief Engineer is the competent authority.

A critique of the enactment:

Though the Act seeks to co-opt all other water users' in the area, no voting rights have been conferred on them. The enactment thus prioritises the usufruct rights of the land owners benefiting from the irrigation systems. Landless agricultural labour, women and children who are indirect beneficiaries of the irrigation systems, do not, as categories, have the decision making powers in the new institutions set up by the Act. The enactment further reinforces and marginalizes these categories of societies, in providing democratic governance. Further, the Act does not specify any linkages between the newly constituted statutory WUA and the traditional institutions associated with traditional water harvesting systems. The traditional functionaries are not referred to and the experience and expertise of these functionaries are not taken into cognizance.¹⁹

The reform process and the legislations do not pay careful attention to the process of institution building, which is crucial to the survival and success of the experiment. 'Inadequate attention is paid to increasing the managerial capacity of the executive body and the general body of the WUAs. Maintenance and repair works do not have to be justified keeping in mind immediate necessity or potential long-term and short-term benefits that accrue to the ayacutdars who do not see incentives for participation in the maintenance or repair works.'²⁰ Further the legal mechanisms do not emphasize the importance of the transparency, accountability, and responsibility of the various functionaries, both internally and to the larger community.

3.2 Implementation of APFMIS

The Andhra Pradesh irrigation reform policy seeks to address all three dimensions of irrigation management namely technical, institutional and socio-political. The major focus of

¹⁹ Anil Agarwal, Sunita Narain and Indira Khuran, *Making Water Everybody's Business* 42 (New Delhi: Centre for Science and Environment) 2005.

²⁰ *Id.*

the programme is the institutional aspects which seek to reduce government management through the constitution of a three-tier management system controlled by water users. Water Users Associations (WUAs) and Distributory Committees (DCs) have been formed at minor (tertiary) canal and distributory (secondary) canal level. Project Committees will be formed at system (primary canal) level.

In 1997, after the enactment of the Andhra Pradesh Farmers Management of Irrigation Systems Act, the water rates were increased threefold and elections were held for the establishment of Water Users Associations (June) and Distributory Committees (November).

In the first years after implementation of the Act, the State government has given a fixed amount per acre for maintenance and rehabilitation work on the canal infrastructure, directly to the bank accounts of Water Users Associations and Distributory Committees. The first year this was mainly used for canal clearing and desilting, the second year for repairs of structures. The Water Users Associations and Distributory Committees can prioritize works to be undertaken, and they in principle control the funds, and decide who executes the works. The Irrigation Department gives technical advice and makes estimates. These maintenance/ rehabilitation activities have been the main focus of activity of the Water Users Associations and Distributory Committees. This shift in control over maintenance/rehabilitation budgets from Irrigation Department to farmers is a qualitative shift in the structure of irrigation management. Water Users Associations and Distributory Committees have also been empowered to organize water distribution themselves. A Government Order was issued that put the laskars, the irrigation field staff executing water distribution activities, under the control of the Water Users Associations. 3500 laskars in the State have opposed this order in the courts, and the legal battle is ongoing. The transfer of water distribution responsibilities has thus not been effectuated so far.²¹

There have been studies to examine the feasibility and the functioning of the new institution of Farmers Participation in Irrigation Management. In a working paper, K.V. Raju enumerates both the positive and negative impact of the water sector reforms in Andhra Pradesh. Highlighting the positive aspects, he states that in the last few years it has resulted in inculcating a sense of ownership and belonging among the farmers in the irrigation systems; reducing irrigation disputes among the farmers; reducing irrigation offences by preventing damage and tampering with the irrigation structures by the farmers, particularly in the tail end areas; enabling farmers to take up minimum rehabilitation and O&M works according to their needs and choices; improving water supplies to undeserved areas, particularly at the tail ends and capacity building and empowerment of these organizations in decision making and execution of works.

However, his field research also threw up several inadequacies. Some of the WUA presidents were found behaving like contractors by undertaking the physical work in their own name, poor quality execution of works, making money in the process, considering the whole command area and its structures as their own, and accordingly operating it to show favours to their own cronies. Most of the WUAs are not concentrating on water management, which is their primary duty; instead they are now interested only in contracts. It was also found that some of the WUAs are too large with command areas of more than 8,000 acres resulting in administrative difficulties in convening general body meetings and taking decisions. Misuse of funds released by the government was also witnessed. Further, it was also found that the

²¹ See note 13 above.

WUAs were performing only limited duties such as executing works but not complying with their statutory responsibilities such as maintenance of records and accounts, conducting financial audits, and organizing general body and managing committee meetings.²²

In another study, Davuluri Venkateswarlu reports thus, after examining 14 WUAs from divergent regions/irrigation systems.²³

The background of these people reveals that a majority of them have come from rich, upper caste and are affiliated to ruling Telugu Desam Party (TDP). Of the 13 WUAs that are studied, seven presidents belong to TDP. Three belong to Congress party and remaining three do not have any party affiliation. Of the total 78 TC members, 36 belong to TDP and 20 to Congress. The caste background of these members indicates that the upper castes like Reddy, Kamma, Velama, Vaisya, etc., have greater representation than backward and Scheduled Castes. Nine out of 13 presidents and 39 out of 78 TC members belong to the upper castes. The economic background of these members indicates that almost two-thirds of the presidents belong to rich family background. Of the nine presidents from rich family background, two are ex-civil contractors of irrigation department. An important aspect to be noted here is that women representation is almost negligible. Except four TC members all presidents and TC members are males. ...There are clear indications that the party, caste and class background of the office-bearers are coming in the way of functioning of these institutions. In several WUAs we have noticed that there is a clear lack of coordination and cooperation among the members belonging to different backgrounds.²⁴

On water regulation, his findings reveal a distinct lack of interest in water regulation.

According to the Act, WUAs have two key functions to perform, i.e., maintenance of irrigation systems and distribution of equitable water supply (per acre basis) among all the users. As of now, WUAs seems to be much more interested in taking up maintenance works than water distribution activities. Water regulation is a crucial function which requires lot of motivation and self-discipline among the water users. Of the 13 WUAs, except two none seems to have made serious attempt to motivate members about judicious use of water and control over unauthorized water users. Of the two WUA areas where water regulation systems are working somewhat better, one is tank-irrigated area and another is tail-end area of major irrigation system.Given the disparities and complexities involved in composition of WUAs, water use practices among the farmers (head-end farmers consuming water than they depriving the tail-end farmers of their share) and lack of any systematic method for equal sharing, the question of equal distribution among all members is a crucial one and needs to be addressed.²⁵

On the reorienting of the irrigation department, the study concludes that except a small group of enthusiastic and progressive officials, the lower level staff in irrigation and revenue

²² K.V.Raju, *see* note 2 above, pp10-12.

²³ Of the 14 WUAs, 5 are under major irrigation systems, 2 are under medium and the remaining 5 are under minor irrigation systems.

²⁴ Davuluri Venkateswarlu, 'Politics of Irrigation Management reforms in Andhra Pradesh', in Hooja, Pangare and Raju eds, '*Users in Water Management*' 171-172 (New Delhi: Rawat Publications, 2002).

²⁵ *Ibid*, pp 174-175.

departments in general does not seem to be very happy with the PIM programme. While their unhappiness was not expressly stated on the perceived threat of losing their control and power, it manifested in their actions such as delays in implementing the measures, non-cooperative attitude with newly elected members of WUAs, etc.

In several places the newly elected members of WUAs complained that they were not receiving proper support and cooperation from irrigation and revenue departments. In addition to help the WUAs in their multiple activities, the irrigation and revenue departments are supposed to provide necessary information required by the WUAs. According to the Act, WUAs are required to maintain a number of registers and records for which they need the help of irrigation and revenue department staff. As of now, several WUAs are not maintaining these records. Part of the reason lies in the lack of interest among WUA members in maintaining these records, but in many places it is the general attitude and lack of interest of local staff in extending cooperation. One WUA president reported that he had to make six visits and wait for about three months to get the information about the area actually irrigated and amount of revenue collected from the local revenue staff.

Several of the irrigation department staff interviewed also expressed their strong reservations and doubts about the capability of WUAs to perform the tasks entrusted to them and viability of the programme in the long run. In their opinion, the WUAs are more interested in receiving funds from the government and maintenance activities than water regulation and equitable distribution among all the members.²⁶

Guided by the hegemonic discourse of Participatory Irrigation Management (PIM) that is being experimented with all over the world, the APFMIS attempts to replicate the institutional model of water users associations. Two pilot studies were conducted by the Government but no detailed socio-economic analysis was carried out to gauge the relevance or feasibility of the water users association; no participatory exercise to elicit opinions of the water users and no detailed mapping of the requirements of such an institution was ventured.

According to Hooja, the goal of PIM is 'improved and integrated management of water users associations at various levels with the concerned State Governmental agencies.'²⁷ Implicit in the idea of WUAs is the principle of voluntary democratic collectives with the power to design their own rules and bye-laws. The Act pre-empts the voluntary nature by making it mandatory for all water-users to be members of the association. Though touted as PIM, what the Act in reality does is put in place mandated groups of people, with the commonality of being water users, to ensure efficient and sustainable distribution of irrigation water. The Act does not necessarily focus on 'rights' or even the equitable distribution of the water resources. A related question that needs to be raised is whether the decentralisation envisaged under the Act is truly democratic. Does it take into account the lack of homogeneity amongst the water users (gender, class and caste divisions) so as to be truly representative?

It is also noteworthy, that the final arbiter for all decisions taken by the WUAs is the Government. The Government under Section 41-A has the power to give suo mou directions for the 'proper working' of the WUAs and the WUAs are required to implement these

²⁶ Davuluri Venkateswarlu, *see* note 24 above, 174-176.

²⁷ Rakesh Hooja, *Below the Third Tier: Water Users Associations and Participatory Irrigation Management in India*, *Indian Journal of Federal Studies*, 1/2004, accessed at http://www.jamiahamdard.edu/cfs/jour4-1_4.htm.

directions for the 'effective functioning' of the WUA. Further, the Government has the powers under certain circumstances, to remove a member of the President after giving him the reasonable opportunity of making a representation against such action. Having introduced the novel feature of the 'right to recall' in this Act, it is unclear as to why this additional safeguard, which seeks to undermine the democratic functioning of the WUA, has been inserted.

3.3 The Andhra Pradesh Water Resources Development Corporation Act, 1997

The Andhra Pradesh Water Resources Development Corporation, 1997 seeks to consolidate efforts to manage all water resources through coordination and cooperation between the conflicting sectors like domestic, industrial, and irrigation. Under the new schema, all the sectoral water needs and their management is through the single window agency i.e., the Corporation and this includes construction and operation of irrigation and command area development, flood control, drinking water and industrial water supply schemes, and promotion of water related activities like fisheries, floriculture, sericulture, tourism, water sports.

Composition:

The Corporation²⁸, which is based in Hyderabad consists of elected representatives (Minister [Major and Medium irrigation] is the chairman), bureaucrats (principal secretary/secretary to the government, irrigation department and principal secretary/secretary to the government, finance department); representatives from a financial institution to be nominated by the state government and nominees of the Government; nominees of the Government (officer to be appointed by the State Government as the member secretary, who shall be designated as the Managing Director of the Corporation and three other members from official or non-official category). The term of office of the members shall be for a period of one year. The state government shall appoint a Managing Director, Chief Engineer, Superintending Engineer, and Chief Accounts and Finance Officer.

The properties and assets comprising movables and immoveables including irrigation projects, works under construction and management of completed schemes, situated in the area of operation of the Corporation, which vested in the State Government and were under the control of the Command Area Development Department, are by virtue of this enactment now vested in and transferred to the Corporation. The rights, liabilities and obligations of the State Government, whether arising out of any contract or other wise pertaining to the said project of the State Government, shall be transferred to the Corporation. Effectively, this results in the Corporation taking over all the irrigation projects of the State Government.

Powers and functions with regard to irrigation:

The Corporation has been vested with wide ranging functions from promoting and operating irrigation projects and command area development including flood control; plan, investigate, design, construct and manage the irrigation projects and command area development, drinking water supply schemes, industrial water supply schemes; to enter into contracts, invite tenders, bids, offers and to promote participation of any person or association of individuals, in planning, investigation, designing, construction and management of irrigation

²⁸ The Corporation set up under the Act has a legal status and shall be a body corporate having perpetual succession.

projects and command area development including flood control. The Corporation has also been given a wider mandate to promote irrigation related activities such as fisheries, pisciculture, floriculture, horticulture, sericulture, tissue culture, etc; and to promote tourism, water sports and other related activities on and around the irrigation projects. And on more commercial lines, the Corporation has the powers to develop the land around or nearby lakes and other locations with irrigation facilities and lease it to interested parties. Interestingly, the list of powers and functions enumerated in the Act, does not, even in the passing, refer to according community ownership and traditional management systems a continuing role in the matter of water resources management.

The Corporation has been vested with the powers to accord administrative approval, technical sanctions, acceptance of all tenders, sanctioning budget and making financial provisions and settling disputes arising out of contracts, to acquire and hold property, both movable and immovable as the Corporation may deem necessary for the performance of any of its functions.

Further it has the powers to lease, sell, exchange or otherwise transfer any property held by it, to construct or cause to be constructed such dams, barrages, reservoirs, irrigation, flood control and drainage canals and such other works and structures as may be required. The Corporation has vast powers to take measures to prevent pollution of any water under its control and to prevent the discharge of effluents which are harmful to water supply, irrigation, public health or aquatic life. It is permitted also to stock its reservoirs or water sources with fish and to sell fish or fishing rights and prohibit taking out fish or fishing rights from the water under its control.

The Corporation is required to assist in the establishment of water users associations and other organization formed under the Andhra Pradesh Co-operative Societies Act, 1964. To lease rights for water sports, other recreational activities related to the use of reservoir and its surroundings. To establish, maintain and operate laboratories, experimental and research stations and farms for conducting experiments and research, for – (a) utilising the water, and other resources in the most economical manner for the development of the River Valleys; (b) determining the effect of its operations on the flow conditions in the river valleys; (c) providing navigation condition in the river valleys; In order to do all this, it can engage suitable consultants or persons having special knowledge or skill to assist the Corporation in the performance of its functions²⁹.

Under the Act, all dams, weirs, any installation or other work for the extraction of surface water, can be carried out only by the Corporation or with the permission of the Corporation. The only exceptions to this rule are the State Government or the local authority in that area. In effect, the Act, hands over the control and management of surface water to the Corporation³⁰.

Funds of the Corporation:

The Corporation shall have and maintain its own fund, which shall be credited with all moneys received by the Corporation from the State Government by way of grants, subventions, loans, advances and the loans raised under this Act; all fees, costs, and charges received by the Corporation; all moneys received by the Corporation from the disposal of

²⁹ Section 19, Andhra Pradesh Water Resources Development Corporation Act, 1997.

³⁰ Section 23, Andhra Pradesh Water Resources Development Corporation Act, 1997.

lands, buildings and other properties, moveable and immoveable and other transactions; all moneys received by the Corporation by way of water charges, rents and profits or from any other source.

Section 34 provides that the Corporation may borrow money from the financial institutions or non-resident Indians or from the open market by issue of guaranteed or unguaranteed bonds, debentures, stocks, for the purpose of providing itself with adequate resources.

The Act states that the Water Users Associations shall be responsible for maintenance of the canals and management of water. The Corporation shall determine and levy water charges according to the volume, for supply of water for irrigation, industrial and domestic purposes to the state government, local authorities, government agencies, cultivators and water users associations. Provided that, the levy of water charges shall be such that water charges so recovered shall be sufficient at least to cover the interest charges of the loan raised by the Corporation from the open market. Section 22 clearly states that the Corporation shall pay the interest on the borrowed money through the recovery of water charges.

Rehabilitation and resettlement:

The rehabilitation and resettlement of the persons affected due to the irrigation projects shall be carried out by the State Government but all the expenditure required to be incurred by the State Government for the rehabilitation and the resettlement of persons affected by the irrigation projects shall be borne by the Corporation.

3.4 Implementation of APWRDC

The Andhra Pradesh Water Resources Development Corporation was formed but it has not undertaken any activities of any significance. Currently, there is one member secretary, who holds additional charge of the Corporation. The Andhra Pradesh Water Resources Development Corporation was set up to raise funds for funding the irrigation sector. The budget allocated from the Central and State Governments were found to be inadequate and it was imperative to raise loans to fund projects. However, the government could mobilise loans up to Rs. 3000 crores only, through this corporation from banks and other organisations and its efforts at raising funds by floating bonds has not been very successful.³¹

Given that there is no activity, the enactment needs to be examined on its merit, to ascertain its possible impact. It is found that the 'legislation has not been as strong in including transparency and accountability in its performance; nor in providing incentives and disincentives to staff and water users (in all sectors) to enhance water use efficiency. The Act is not clear about water rights. Furthermore, the Act emphasizes controlling extraction only of surface water, and groundwater is untouched.'³²

The Andhra Pradesh State Irrigation Development Corporation, which provided irrigation facilities to hilly areas and lands of weaker sections, including tank irrigation which is completely neglected in the World Bank-sponsored projects, has been closed down around

³¹ M.Venugopala Rao, CPI (M) Wants Comprehensive Water Policy With Balance and Social Justice, *People's Democracy*, accessed at http://pd.cpim.org/2006/0430/04302006_ap.htm.

³² Gulati, et. al, *see* note 12 above, pg. 182

the same time that the APWRDC was set up.³³ This component of social justice and larger community interest, does not find a place in the present legislation.

By linking the determination of water charges (Section 22) to the borrowings of the Corporation as opposed to the needs of the WUAs at the ground level, the Act reveals the true nature of the association between the WUAs and the Corporation. The uni-dimensional nature of the association, given that the WUAs do not have a say in the borrowings (either individually or through a federation) of the Corporation, displays the imbalance in the institutional framework. Decentralisation, obviously, is only a disingenuous method to service the overtly centralising rationale of the water sector reforms. The focus of the new Corporation appears to be more towards raising funds and recovering the amounts required to repay the loan amounts.

4. Water 'Rights' Revisited

The water rights contained in the irrigation statutes largely stem from pre-independent legislations. These laws primarily provide for state take over, and control of irrigation waters while granting users, usufruct rights. The usufruct rights in water are linked to the land and could only be transferred if the land is transferred. Customary and traditional rights have been protected under most of these irrigation laws. Apart from the state irrigation laws, the Easements Act provides that no prescriptive rights of easement can be claimed against the government in the waters of rivers, streams, canals. Section 2 of the Indian Easements Act states that the Government shall have the right to regulate the collection, retention and distribution of the water of rivers and streams flowing in natural channels and of natural lakes and ponds or of the water flowing, collected, retained or distributed in or by any channel or other work constructed at the public expense for irrigation.

Water 'rights' is not the primary focus of the present phase of water sector 'reforms' in Andhra Pradesh. But it is envisaged as an important component of the reform process by the World Bank. The World Bank technical report discusses the water rights and states thus: 'The APFMIS Act and development of WUAs offers an eventual opportunity for voluntary transactions in water, as practised in Chile and western USA. In Indian circumstances, this might use the WUA and other bulk users as the transacting units (within a WUA, individual farmers could also undertake such transactions with their water rights), and might rely more on part transactions (a portion of water right rather than the whole of it) and leases rather than sales. A WUA could negotiate a larger or smaller share of water with other WUAs or with another bulk consumer such as an industry or municipality. The negotiated price would reflect a lease or sale value mutually attractive and beneficial to both renter and leaser of water. This could facilitate water going to its most viable use. Such options, while potentially attractive, would need careful assessment of experience in the few countries where formal water markets have developed successfully, including examination of regulatory requirements to ensure environmental sustainability and social safeguards.'³⁴ The World Bank therefore exteriorizes water rights as an antecedent to enabling an economy which uses the resource as a tradable commodity.

³³ Jayati Ghosh, Privatisation of Andhra Pradesh, *Frontline*, Volume 19- Issue 05, March 02-15, 2002 accessed at <http://www.hinduonnet.com/fline/fl1905/19051020.htm>.

³⁴ World Bank Technical Report, *see* note 4 above, page 59.

However, the reforms impact the water rights regime of irrigation in Andhra Pradesh. Firstly, it has an impact on the **usufruct rights** of water users. It vests the usufruct rights in a collective, but the enactments do not create any new rights. It is important, however, to examine the nature of the usufruct rights vested in the WUAs. The first generation of irrigation laws post independence, clearly vests all rights over the water in the command area and the canals in the state. Individual farmers were only granted water use rights on payment of a fee but the timeliness and adequacy of the water that is reached to the farmers was not guaranteed or protected by legislation. The new legal framework in Andhra Pradesh does not alter this legal status. It seeks to only transfer this proprietary usufructary right of use to a collective called the Water Users Associations. However, it does not explicitly provide that the WUAs usufruct rights are justiciable or even equitable. In the event of disputes intra-WUA or inter-WUA, it is sought to be resolved internally or by the unit immediately preceding it, in the hierarchy. However, if that were to fail, it is unclear whether an aggrieved individual farmer can use the provisions of the enactment to assert a 'rights' claim, as against the WUA or even the state.

Secondly, it has an impact on the **democratic participatory rights** of water users. As noted above, the APFMIS act which sets up the WUAs, do not seek to redress the possible 'rights' claims that may be denied to political, socio-economic, gender-specific, religious and caste compositions in the access to water and investment decisions at the local level, thus determining the sustainability and effectiveness of the WUAs. Without these rights being formalised through a statute, it is unlikely that the heterogeneous groupings of WUAs will succeed in ensuring equity in the governance structures, thus making them truly participatory. Linked to the issue of equitable and participatory governance structures is the issue of delinking water rights from land rights, so as to give voice to the landless in water management structures. This is vital if irrigation waters are being put to uses other than its primary goal of agricultural production. 'Apart from the question about who constitutes the community of water users/right holders, there is the question regarding which rights these right holders hold: rights to water or also rights to participation in decision-making, and which obligation come with the rights?'³⁵

Thirdly, it does not address the issue of **equity and sustainability** of water distribution. Inherent in the irrigation system design, is the concern over the equitable distribution of water, impacting the rights of water users. The resource distribution between the head reaches and the tail enders has been a recurring concern of many committees and commissions that have been set up to study the implementation of the irrigation works.³⁶ The water availability reduces progressively as one heads from the head end to the tail end of a canal system. As Syed Hashim Ali³⁷ notes in his report:

The concept of equity amongst all farmers within a command area in respect of cropping pattern or irrigation supplies has not gone into the planning of projects. Localisation for different types of irrigation which should normally be based on agro-climatic factors, soil types and the cropping pattern prevalent at the time of the project formulation generally becomes an arbitrary exercise. The decisions on intensity of irrigation to extend the canal to more villages, talukas or districts results in large commandable areas at the top end of the canals being left out of localization resulting

³⁵ Mollinga and Bolding, *see* note 13 above, page 276.

³⁶ Head refers to head of the system, head of the distributory and head of the minor. Similarly, tail end refers to the end of a channel – main canal, distributory and minor.

³⁷ Syed Hashim Ali, *see* note 10 above.

in large-scale indiscipline by farmers located at the head reaches and within easy reach of water. Thus, if the intensity is decided at 50% this results in 50% farmers in a village getting 100% water for full development of the crop and the remaining 50% being totally deprived, causing an ever growing social and economic imbalance in the village besides inhibiting efficient use of water by the beneficiary farmers.

Equity is therefore, a matter of concern not only for the engineers and architects, but also the law reformers grappling with rights issues.

Fourthly, the reforms do not take into account the **traditional water rights regime** and their interface with the formal legal system. Though the irrigation systems in the country, provide formal entitlements to the land owners in the command area, the 'quantum and periodicity of supplies are usually not specified – both being understood to be contingent on the overall supply in the system. The rules and procedures to be adopted in different contingencies are neither explicit nor transparent. Entitlements are in the nature of incompletely specified use rights. Nor are they recognized as a contract with reciprocal rights and obligations of the supplier and the user that can be legally enforced.'³⁸ In the absence of clearly defined enforceable entitlements, a combination of traditional water rights rules and the morphing nature of agrarian relations, determine the contours of the de facto water rights. The reform process does not attempt to acknowledge and incorporate this complexity of the water rights regime.

Fifthly, the reforms do not shed any further light on the process of settlement of rights in the event of disputes. 'At all these levels the emphasis in India has been on bureaucratic allocation (legal and administrative decisions reserving X, Y and Z quantities of water for different (sub-) systems and sectors.) Allocation does not straightforwardly translate into distribution, and allocation mechanisms have given very little protection to tail-enders. More generally, they are not very helpful when disputes arise – when use patterns change, scarcity increases or for other reasons. These disputes are often about the space and time details of distribution, and the quality of the water involved. For resolution, the process of dispute management is also very important. None of these aspects are part of overall quantitative allocations. Workable rights, that is rights that are enforceable and able to deal with real situations, are largely absent in the canal irrigation sector.'³⁹

In many parts of the world, water rights are gaining recognition as a critical 'second' generation issue, especially within the current paradigm of irrigation reforms. It is argued that though complete 'ownership' of water, including the right to sell or transfer water to others, may not be required, confirming use rights and some kind of control rights over water to user groups can be an effective part of PIM programs.'⁴⁰ This however, is a diluted version of the World Bank framework on rights. It is therefore important to scrutinize carefully the World Bank framework on 'rights' for irrigation systems, which has a bearing on the water sector reforms undertaken in the state of Andhra Pradesh.

While emphasizing the need for recognizing and managing water rights, the goal of the World Bank is to transform the 'public-usufruct' character of water rights to 'private/commodification-ownership' model. In the words of the World Bank:

38 A.Vaidyanathan, *India's Water Resources, Contemporary Issues on Irrigation* 134 (New Delhi: Oxford University Press, 2006).

39 Mollinga and Bolding, *see note 13 above*, page 277.

40 A.Narayanamoorthy and R.S. Deshpande, *see note 14 above*, page 198.

The essence of this change is that water rights (of individuals and communities, including traditional users) enjoy the same legal certainty as land and other property rights. Once established, such rights give rise to a series of fundamental and healthy changes. First, those requiring additional resources (such as growing cities) will frequently be able to meet their needs by acquiring the rights of those who are using water for low-value purposes. Second, there are strong incentives for low-value water users to voluntarily desist, making reallocation both politically attractive and practical. Third, the establishment of formal water rights gives rise to strong pressures for improving the data required to manage the resource. And fourth, this reduces the pressure of a 'race to the bottom,' since those who have rights have a powerful interest in sustainability.⁴¹

An interpretation of the above raises several issues. Firstly, the classification of certain uses as 'low-value purposes' raises serious concerns. Such a classification raises questions about the value that is being placed, the determination of policy priorities and more importantly, who is determining this value. Though, not clearly spelt out, it is suggestive that small and marginal farmers, carrying on subsistence agriculture would fit the bill. By placing a lower value on certain uses, this framework validates uses that will ultimately carry a market connotation, thus sidelining uses that may have social, public or even political utility. Consequently, it is conceivable that there is a replication of the situation in some parts of the country today, where groundwater is being extracted and sold by farmers to cities starved of running water. It is also conceivable that the locational advantage of lands adjoining irrigation works is further exploited by 'high-value users', impacting adversely traditional water rights, food security and the cohesive functioning of local collectives such as the water users associations.

Secondly, converting water rights into 'tradeable rights' without adequate safeguards and protections impact the fundamental and human rights to water resources. A discussion of rights in somewhat absolute terms, devoid of the necessary restrictions and caveats that factor in equity and social justice, needs to be forestalled. The concept of 'tradeable water rights' thus, needs to be reimagined to fit water scarce countries. Thirdly, the assumption that conferring of 'rights' would ensure sustainability and conservation of the 'fugitive resource', is flawed. In fact, the converse would be true. While 'incentives' for low-value users to exploit the resource would be high, the consumer of the water resource is distanced from the source so as not to be staked in its everyday conservation efforts.

It is therefore, imperative that the rights framework pertaining to the irrigation sector be reviewed more carefully by policy analysts. Water rights in the irrigation sector needs to be made the core component of the all the reforms being undertaken in the country. Such an approach would bring to fore issues of equity, sustainability and democratic participation. Clarity in the access and control of irrigation waters has larger implications for water resources management and equitable agrarian relations, in the country.

⁴¹ The World Bank Water Resources Sector Strategy, page 16 accessed at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2004/06/01/000090341_20040601150257/Rendered/PDF/28114.pdf

5. Whither the Trajectory of Legal Reforms?

The Andhra Pradesh experiment with irrigation sector reforms, particularly the accompanying legal framework, has been touted as a ‘success’, the world over. As Mollinga and Bolding, state ‘promising success is a structural element of the donor world. Consultants tendering for project contracts, or development funding agencies designing the conditionalities of a loan, need to suggest that within a given time frame, say three or five years, problem can be solved. The existence of successful models helps to convince those involved of feasibility of the undertaking.’⁴² Once termed ‘successful’, these models are replicated all around the country. It is therefore important that independent studies reviewing and evaluating the implementation of the reforms and the enactments, is crucial to determining the direction in which reforms need to be pointed.

It is important to take the long view of the legal changes that are sought be effected through the reforms. In focusing on the areas that need reforms, more particularly, on the water rights framework, a distinction between the private and public goods that accrue as a result of the surface irrigation works is necessary. ‘This is so even when water for irrigation is viewed as an economic good, to be priced in relation to volume consumed or benefit derived thereof.’⁴³ It is important that the ‘public goods’⁴⁴ aspect find prominence in the policy statements of the legal reforms.

As evidenced by the field studies, the reforms in Andhra Pradesh have led to a capture by the rural elite of the reform process. The problem of equity continues to haunt the sector. It is imperative that newer institutions are envisioned with a clear strategy for their integration into existing socio-political structures. The creation of a centralized Water Resources

⁴² Mollinga and Bolding, *see* note 13 above, 4.

⁴³ S.J. Phansalkar, Private Sector Participation in Financing and Managing Surface Irrigation, page 6 accessed at <http://www.ide-india.org/ide/resource/attachment.php?s=5423bcaababf411e3e5fd4cd6f9e836a&attachmentid=86>.

⁴⁴ The types of benefits that can accrue from a dam are as follows (adopted from the Report of the Commission on Water and Irrigation (Chitale Commission) Chapter 16, GOM 1999).

Private goods are:

- Facilitation of cultivation of crops in the second and the third season in the command area;
- Production of electricity where the hydro-electric project facility is a part of the project;
- Production of fish in the reservoir;
- Supply of water for domestic and industrial purposes to nearby townships/industrial estates; and
- Creation of recreational possibilities in the reservoirs and in the gardens on the embankment.

Public goods are:

- Avoidance or significant mitigation of floods in the downstream areas and hence avoidance of consequent loss to life and property;
- Avoidance of famine-like conditions and consequent acute distress to a mass of population by creating the potential for providing protective irrigation to staple crops;
- Avoidance of acute distress arising out of paucity of water in dry seasons as the stored water can and often is used for the supply for drinking purpose to human settlements;
- Accretion in ground water storages arising out of seepage of surface water and return flows; and
- Generation of employment as a result of direct effect on double cropping as well as indirect, secondary and multiplier type effects.

It is not possible and certainly not desirable to even remotely ‘privatize’ at least the famine and flood and drinking water distress avoidance benefits of the surface water infrastructure. Technically it is difficult to measure and attribute the second order economic effects.’ S.J. Phansalkar, Private Sector participation in financing and managing surface irrigation, *see* note 40 above, 10.

Development Corporation brings with it, a different set of dynamics. 'Legal reforms that further concentrate all powers regarding the water sector in the hands of a single regulatory authority may tend to bring back dependency on the functionaries with a vengeance.'⁴⁵ Presently, the reality of the Andhra Pradesh reforms is characterized by ill informed, unmotivated water users associations, an elite capture of power of the newly formed decentralized units, a bureaucracy that is opposed to change and an overall top down approach to changes that are being effected. It is important that we look beyond the limited World Bank vision of reforms, to incorporate issues of democratic participation, human rights, conservation, environment and sustainability in tandem with the goals of participatory management, tradeable water rights and cost recovery concerns. It must be firmly stated here that the traditional goals of irrigation viz., flood and famine control, food security and water management for agriculture purposes are goals that have been largely unmet and continue to be relevant, even today.

Finally, the reform process, including the legal reforms, requires a more diverse process. Donor driven reforms must have a more participatory approach with greater engagement of the community and the civil society. Legal reforms in Andhra Pradesh in the last decade have focused on cost-recovery, transfer of irrigation management to farmers and corporatisation of the public sector agencies. While better governance is a desirable goal, issues of equity, sustainability and social justice needs to be an essential component in the next stages of the reform process. Greater participation, transparency and accountability have been a continuing demand of the civil society in all post liberalization reform processes. That demand is germane to the ongoing irrigation sector reforms, too. More importantly, in the zeal to experiment with newer paradigms of development and growth, the wisdom of traditional knowledge systems and the insights gained from the field over several decades of the functioning of the surface irrigation systems, is not lost sight of.

Conclusion

From this case study, is evident that the reforms being carried out in Andhra Pradesh are dominated by a hegemonic discourse that promotes market as the solution to the problems of water resources management. As this study demonstrates, there is a clear need to shift the emphasis from pricing and 'participatory irrigation management' to concerns of the 'water rights' discourse. The content of the rights discourse needs to incorporate issues of equity, sustainability and inclusiveness, alongside socio-political concerns of effective decentralization and substantive empowerment of all water users. Further, the inevitable contestation between traditional rights, common property rights and rights acquired 'due to access to resources'⁴⁶ highlights the need for a clearly defined rights framework.

Learning from the experiences of the sub-national, the larger debates on legal issues at the global level, needs meticulous reevaluation. While much of the debate in popular literature on irrigation focuses on water rights as essential for the larger goal of commodification of water, it maybe important to highlight that water rights from a human rights perspective, is equally needed. The ongoing debates on human rights within the national and international framework need an irrigation specific focus. A more comprehensive approach keeping in

⁴⁵ Phansalkar, *see* note 40 above, 10.

⁴⁶ A. Rajagopal and S. Jankarajan, *Water rights and participatory irrigation management in India: The case of surface water sector in Tamilnadu State*, 2 accessed at www.water-2001.de/datenbank/546076235.41368.14/WATER_RIGHT_PAP.doc.

mind local complexities, as opposed to a 'one size fits all' prescription, is vital to better water resources management in the country.

A.GURUNATHAN & C.R.SHANMUGHAM, CUSTOMARY RIGHTS AND THEIR RELEVANCE IN MODERN TANK MANAGEMENT: SELECT CASES IN TAMIL NADU

1. Introduction

In India, the use of natural resources and their associated technologies and laws have their origin from very early period and they are in many instances having their own jurisprudential base. The governance of important natural resource such as village water resources was decentralized and was having its legal basis almost entirely in Custom. Custom is a law not written but established by long usage and consent of our ancestors (The Law Lexicon). In the legal sense, custom means a long established practice considered as an unwritten law. In another sense, custom depicts a long practiced usage having the force of law. Custom mostly takes the place of law and regulates the conduct of men in the most important concerns of life. At times customs too die away or are abolished or suspended by statutory law. Nevertheless, custom has been a source of law independent from known sources, namely religious or ethical doctrine, texts or royal decrees, as far as traditional Indian jurisprudence is concerned. We can observe that these customary practices are even now in vogue in land holding patterns, traditional water technologies, forest use, agriculture & fisheries. The legal frameworks based on customs provide a wealth of information on sustainable resource use and management.

Food security plays a crucial role in addressing the needs of a growing population and it is inextricably linked to poverty alleviation. Water as a timely rainfall or irrigation is a crucial input for enhancing crop production and providing food security. Minor irrigation tanks seen in plenty over the nation and especially in the Deccan Plateau have been supplying the rain water for agriculture by effectively harvesting monsoon rains. Indeed, they have been traditionally managed by the local communities who have, over the years, evolved certain regulations for distribution and integrated management of water. Those regulations adapted by the community to suit the changing situations over the years have become the customary rights in tank management.

In India, the central government passed the 73rd and 74th amendments to the constitution in 1992, thereby requiring the state governments to create a statutory three tier local self-government structure down to the village level. Several natural resources including tanks and ponds were brought under the jurisdiction of these bodies. The Indian government also passed a Panchayat Raj (Extension to Scheduled Areas) Act (PESA) in 1996, which empowered the gram sabhas in the 5th scheduled areas to have the right to decide upon or veto development projects within its jurisdiction (Lele, 2005). Therefore, the practices followed by the community from time immemorial over water bodies fall under the scope of custom and customary practices.

DHAN Foundation's grass roots experience in conservation and development of small scale water bodies like tanks and ponds through community institutions, made us to examine the customary practices and rights traditionally held by the users of tanks, as a research study with the guidance and support of Development Centre for Alternative Policies (DCAP), New Delhi. The authors present the findings on the customary rights and their relevance in tank management by reviewing select cases in Tamil Nadu.

1.1 Brief Account of DHAN Foundation's activities in Tank Programme

Irrigation tanks, one of the very important water resources for the rural community in Tamil Nadu occupy a significant position in agricultural economy, by way of supporting livelihood for 1/3rd of gross cultivated area under it owned mostly by the rural poor. They have also played a crucial role in safeguarding the local ecosystems. In the context of management of tanks in India, one could notice that the local management systems developed and practiced for centuries have served the multiple needs of the rural community. Nevertheless, after independence, the continuous neglect of these unique indigenous tank systems due to various reasons has resulted in their deterioration and several small scale water resources have even become extinct. The decline in tankfed agriculture has been more rapid in the past four to five decades. This situation has led the affluent farmers in the tank command areas *ayacuts* to go in for wells, leaving the small and marginal farmers in the lurch. Many of the *ayacut* lands of tanks situated along the outskirts of large towns and cities have been converted into house sites due to the urbanization, and the tanks were further neglected. They became dumping grounds for wastes and lost their storage capacity.

This situation led to encroachments in the common lands of the tank complex, particularly in the tank bed and along the feeder channels. Tank system has a special significance to the marginal and small farmers as most of them are depending on them for their livelihood through irrigation, domestic water use and inland fishing. It is in this context, true to its mission of livelihood improvement of the poor and down trodden, that since 1992, DHAN Foundation has been undertaking rehabilitation and restoration of small scale water bodies in rural areas. This activity is undertaken by building social capital and bringing back local management as one of its thematic poverty alleviation programmes named '*Vayalagam Tankfed Agriculture Development Programme*'. Under this programme which has multiple development components, a number of tanks systems have been rehabilitated by the tank associations comprising the rural communities, with the techno managerial support of DHAN Foundation, in selected blocks in the South Indian states of Tamilnadu, Pondicherry, and Karnataka & Andhra Pradesh.

2. Customary Rights in Tanks

Customary Rights to tank water and other associated usufructs have been exercised from time immemorial by farming as well as non-farming villagers, according to the norms evolved with their consensus. DHAN Foundation felt it necessary to understand the prevailing customary rights indigenously developed and practiced by the community, how over a period of time other interventions have changed them and the implications of such changes on the community as well as on the resources themselves. The study of customary rights made during 2003-04, was based on the available records as well as through intensive field studies, mainly to document the present pattern of intra and inter tank management systems. The study undertaken with the support of Development Centre for Alternative Policies, (DCAP), New Delhi, had the following objectives:

- i. To investigate historical and still existing customary rights in tank systems in Tamil Nadu and their relation to past and present customary management of tanks.
- ii. To review the current irrigation law and policy of the State in relation to institutions and management processes, including review of the institutionalization of irrigators under the official modern tank management strategies and through non-government organisations' initiatives.

The study was conducted in the tanks situated in the southern districts of Tamil Nadu. Archival and public records and other literature, Government Orders and Court verdicts were reviewed for a proper understanding of the problems in general and specific to the study areas. Selected individual farmers were interviewed through standardised interview schedule.

2.1 Customary Irrigation Rights: A Recorded Mamul Nama in Vellore District

In the early years irrigation rights in tanks were largely governed by custom and local practices. But many of them were not in a proper recorded form. It is quite interesting to observe the recorded irrigation rights of pattadars of 188 tanks of Vellore Taluk in 1815 A.D. under the heading 'Water *Mamul Namas*'. These were printed by the British in the year 1907. The *Mamul Namas* have been written in Tamil and signed or attested with thumb impression by the 'Karnam' (Accountant in Village) and the important farmers of the village. (Source: An English version of the *Mamul Nama* extracted from G.O.No.660 I; dated 8th February 1918 and cited by Sivasubramanian K., 1995). It is astonishing to note how meticulously the *Mamul Namas* have been written, recording the period in which the tanks got water supply, the quantity of water available in particular months, the area that could be cultivated, when the tanks got full supply and during the distress period, the mode of irrigation, the permissible number of wells that could be sunk in the ayacut, the crops that could be cultivated in the area etc.

Even though many of the irrigation rights and practices were not recorded, they were meticulously observed by the ryots and the community from time immemorial. However, some customary rights could be ascertained from the 'A' register maintained by the revenue department and the old settlement records. These customary rights along with *Kudimaramath* systems were followed with high dedication and vigil by the ryots and villagers during *Zamindari* system and even under East India company rule for some time. But after the introduction of *Ryotwari* settlements by the middle of 19th century, the effectiveness of the traditional system deteriorated progressively, with the result the tanks were not maintained well in the country.

2.2 Fishery Rights in Tank

Under *Ryotwari* system, when the irrigation tanks were transferred to the Panchayat Unions for maintenance, they had the right to the fishes in those tanks wherever the tanks have been transferred. This is facilitated by Section 84 of Tamil Nadu Panchayat Act 1958. But there is no such section in amended Tamil Nadu Panchayat Act 1994. Wherever fish *patta* has been granted to individuals or institutions, the Panchayat Union will have no right to the fishery until the *patta* is cancelled. Moreover, the fishery right in tanks can be granted only by public auction and not by any other means.

2.3 Custom that prevailed in Water Scarce Area in Tank and Drinking Water Pond

Ramanathapuram district in South Tamil Nadu is renowned for customs in the management of tanks and ponds. Being a water scarce district in a drought prone region, coupled with saline ground water, the surface water bodies remained lifelines and as it is well understood by the people, the customs are strictly adhered to and any change in this led to conflicts and communal disharmony.

Mudukulathur big Tank is located in Mudukulathur taluk of Ramanathapuram district. The tank irrigates an ayacut area of more than 40 ha and the farmers who live in the surrounding villages of Thoori, Ettiseri, Kadambankulam and Selvavinayagapuram own the land. Traditionally, Thoori villagers were maintaining and managing the Mudukulathur big tank. Till mid 1980's, the villagers from Thoori used to invite ayacutdhars from the other remaining three villages for mobilizing voluntary labour to clean up the feeder channel from its original source Rangunatha Cauvery which is a tributary of Gundar river.

After 1980s, the practice has been changed to mobilizing money rather than mobilizing labour from the same villages for the cost equal to their labour. This happened because of the behaviour of one or two villagers who did not send adequate number of labourers. This practice had also collapsed in the mid 1990s. During 1999, Thoori villagers had spent Rs.25000 to clean the supply channels and filled the Mudukulathur big Tank. They vehemently refused to release any water even after the Public Works department engineers tried to open the sluices. Thoori farmers put forth the argument, 'No payment for the clearing of channel and hence No water'. After lot of tension and arguments, two villagers paid Rs.10,000 and Rs.6000 respectively and got their share of water. These types of custom enforced tank management issues are common in such drought prone arid plains of South Tamil Nadu.

The alluvial formations in a few pockets and in proximity of the Gulf of Mannar coast are attributed to salinity in ground water in Ramanathapuram district. It is always a custom that the villagers in many parts of the district used to fill their *Ooranis* (drinking water ponds) from the tanks. This happens at the beginning of the rainy season (September), and again at the end of the season (December) and once again during summer (June). This has been the way of life and the source of their drinking water which they could not separate from irrigation tanks for ages. It is also enforced and practiced that nobody should pump or bail the water below the sill level of the sluice outlets of the irrigation tanks.

3. Synopsis of Cases on Customs and Customary Rights in Tank Management

Customary rights on the use of water have always been recognized by law; but this customary right is not an absolute right and is subject to the paramount right of the state to regulate and control the supply of water for irrigation purpose. The customary right of the ryots has also undergone a change after the enactment of Madras Irrigation Tanks (Improvement) Act 1949 and the Constitution of India.

In Indian Law, the state possesses the right to regulate the supply of water in public streams, to mobilise it to the best advantage. The rights and the obligations as between the state and ryots in India in the matter of irrigation, rest largely on unrecorded custom and practice. Whenever customary rights were violated, courts did not approve the violations and awarded compensation to the ryots who suffered due to such violation.

By the Tamil Nadu Land Encroachment Act 1905, the government assumed full ownership and control over the water bodies. Along with this, Tamil Nadu Irrigation Tanks (Improvement) Act 1949 empowered the government to increase the capacity of the tanks, through appropriate activities. Legal suits against such actions were also barred under section 4 of the Act. Therefore in all the decisions of the court, the customary right against Government was not upheld but the customary irrigation right against the individuals was recognized by the courts. Also the customary rights in case of enjoying the benefits from usufructs from tanks were upheld by the higher courts after long and tiring legal battles

against the villagers as a collective. The following paragraphs capture a few such cases in Tamil Nadu in ensuring the management of tanks through customary rights by community after legal tussle.

3.1 Prevailing Usufruct Rights from Tanks in Dindigul District

Athoor is a traditional *zamin* village bound by its heritage and cultural practices of a multi-caste community in Southern Tamil Nadu. It is situated 20 km south west of the district head quarter, Dindigul. Athoor Village Committee was established even before 1900 with a view to help the village to gain certain benefits from the then government. Late Savarimuthu Pillai was active in the welfare of Athoor and Sempatti villages and he was considered to be a charismatic leader. He is reported to have laid the foundation for the Athoor *Pattadhars'* (Land owners) Committee (APC). It was registered in the year 1993. The Executive Committee consisted of 4 office bearers namely President, Vice President, Secretary and the Treasurer and 13 Executive Committee members who constituted the apex body in the decision making process.

Athoor village comprises a series of tanks, namely Pulvettikulam Karunkulam and Pagadaikulam. These tanks are all situated in a line from east to west of the village. They receive water supply from the rainfed non-perennial river Kundaar. The ayacut area commanded by these tanks is given in Table 1.

Table 1: Tanks in Athoor Village

Tank	Water Spread Area (ha)	Ayacut Area (ha)	Cultivated Area (ha)
Pulvettikulam	68.750	165.505	156.005
Karunkulam	20.030	34.075	31.520
Pagadaikulam	33.085	88.480	81.580
Total	121.865	288.06	269.105

These lands belong to 703 farmers. Of them about 73 percent belong to marginal farmers' category and only 1.5 per cent belong to big farmers while the remaining are small farmers.

Water had to be distributed by the agreed (customary) rules formed by the APC. They are:

- *Maniams* have to distribute the water in an orderly manner sequentially (Head to Tail end)
- If any one needs water beyond the requirement they have to request the APC only, which in turn will suitably instruct the concerned *maniam*.
- During the periods of scarcity, water delivery time will be fixed on the basis of availability and certain prefixed norms to provide equitable distribution.

Fishing rights from these tanks are as per custom under which the villagers auction the fishing rights. The returns from the auction are used for temple and tank related purposes only. All the religions get their share of revenue for their respective religious festivals and it is made known to all the villagers. They have been adhering to this norm for more than forty years.

The customary rights followed by a consensus based decision making process of APC were

- Irrigation rights as per the (customary) rules formed
- Appointment of *Maniams* for irrigation
- Fishing rights
- Segment (*Kandam*) based Watch and Ward system through appointment of guards.
- Cattle rearing and Recreational activities
- Auctioning right over the use of Threshing floor (*KALAM*) at the time of harvesting.

3.2 Dispute on Fishery Usufructs: Loss of Rights

Way back in 1946, the government tried to cancel the fishery rights of the APC by levying a tax called *meenpasi* (Fish tax). But the then president, Thiru I.Savarimuthu Pillai fought against it in courts and finally a stay was awarded by the Madras High Court stopping the take over of the tank fishery rights from the villagers.

Again in mid 1980s, the Tamil Nadu Government brought the tanks under the Fish Farmer Development Agency Act and declared the tank as one of the pilot tanks where fishery was proposed to be promoted. In 1988 the Assistant Director of the Fisheries Department, Dindigul requested the Tahsildar to cancel the APC's customary right to fishery. The APC put up more than ten years of legal battle in the court of law. But in the year 1998 the High Court announced that the right to fishing from the tank has been vested with the Assistant Director, Fisheries Department, Dindigul. So, the APC lost its enjoyment of fishing rights from 1998 onwards.

Like Athoor, Sithayankottai Town Panchayat situated 20 km southwest of Dindigul lost its customary fishing rights enjoyed by Village Farmers Protection Sangham over five decades, to fishery department during the year 1998. In this village even now the mainstay of the people, namely agriculture is practiced under two rainfed tanks, Thamaraiikulam and Puliyanikulam and also in the direct ayacut area of Thamaraiikulam Rajavaikkal. The direct ayacut of Rajavaikkal and two tanks command a total area of 471.065 ha.

In this village, Mr. N. Abdul Khader (who was later elected as Rajyasabha M.P.) organized the farmers and started a formal association namely Sithayankottai Grama Vivasaigal Pathukappu Sangam. This sangam undertook following tank related activities from 1980 onwards.

- Clean the Rajavaikkal every year
- Regulate water distribution
- Purchase a land for Puliyanikulam Tank Farmers Association building construction
- Fish rearing activities in the tank.

Such a well performing *sangam* which has been traditionally enjoying all the usufruct rights including fishery in the tanks, witnessed the problem with fishery department during the year 1988. The association approached the Madras High Court to pass order in favour of the sangam due to their customary practices since ages. While the case against the fishery

department was pending with the High Court, the association continuously enjoyed the rights using the injunction granted by the court. During 1998, the fishery department invited contractors for fishing in the tank, but no one came forward to apply for the contract fearing that the Sangam and villagers would not allow any fishing which was much against the prevailing customary practice. Presently the case stands dismissed, and the Govt. right to fishing is upheld. Annexure 1 provides the legal issues on which the *sangam* fought the case.

3.3 Encroachments and the Rights of Cultivators : A case of Rasingapuram Village in Theni District

Rasingapuram is one of the village panchayats in Bodinaickanur block of Theni district. It is a multicasite village wherein more than 12 caste people are residing with traditional and cultural bondage. This village is situated 23 km south west of Theni. Total geographical area of the village panchayat is 2618.28 ha with around 1640 households. The total population of the village is 6426 (Male 3272 and Female 3154). The main village Rasingapuram is surrounded by four hamlets within its Panchayat jurisdiction. *Kurumba goundar* is the dominant caste in the village.

There is a tank called Goundankulam in the village fed by a non perennial stream. This village was one of the front liners in getting electricity in late 50's. This combined with free electricity and agricultural credit to sink wells in early 70's led the villagers to sink more than 250 wells. Ruthless mining of ground water from the wells made the farmers to dig 100 feet bore wells inside the open well of 80-100 feet depth. Because of their over dependence on wells coupled with state ownership of tanks, the farmers neglected the tank. Using this opportunity, a few power centric and greedy farmers encroached the feeder channel and also ploughed the tank bed, sunk two wells and got electricity supply by unfair means and were cultivating crops and coconut trees. They enjoyed the benefits over twenty long years. The villagers' continued effort to vacate the encroachments failed to yield any positive result in favour of villagers. By the year 1997 the total water spread area of 5.17 ha of tank bed has been reduced to around 1.20 ha with complete dismantling of the bund. The villagers who owned lands in the *ayacut* as well as others tried to protect the water spread area since 1985, but they failed.

Totally 10 farmers have encroached the land as given in Table 2.

Table – 2: The encroachments declared as legitimate patta

Sl. No	Name of the encroacher	SF No	Patta No	Extent of encroachment (ha)
1	Krishnasamy.S	346/1	45	0.445
2	Ramuthai.K	346/2	1553	0.515
3	Kariappan.C	346/3A1	139	0.230
4	Srinivasan.S	346/3A2	2148	0.040
5	Keppammal.S	346/3B1	2149	0.035
		346/3B2	348	0.220
6	Malarkodi.S	346/4	-	0.230
		346/5	-	0.295
7	Ondiveeran	346/6	-	0.300
8	Thangamani	346/6	-	0.300
9	Perumal.O	346/6	-	0.300

10	Subramani.P	346/6	-	0.800
Total				3.700

During the year 1996, the farmers had approached DHAN Foundation, Madurai to help them to remove encroachments and revive the tank. The farmers were interested in restoring and reclaiming the tank through eviction. They felt that their efforts so far had not been successful and so the organizations like DHAN would guide them properly to get rid of the encroachment problem. They formed a formal Tank Farmers Association (TFA) and arrived at a consensus for making contribution to the rehabilitation works of the tank.

The villagers then approached the District Collector for funding the project and they got the funds. The works to the value of Rs.88,000 has been allotted to the TFA under Namakku Name Scheme (Self Help Project). After a great deal of struggle in 1997 a land survey was organized by the Tahsildar and the boundary was established for the tank at least on paper by the villagers. They have done the reconstruction of the tank bund after removing the encroachments in an area of 0.485 ha under the S.F.No. 346/3A1, 346/3B1 and 346/1. However, the encroachers were continuously making threats as well as taking legal steps to stop the revival of the tank through any means. Since a part of the tank was revived, many wells in the vicinity got rejuvenated by next year (during 1998) and many villagers started pressing for the complete eviction of all encroachers.

The villagers again tried to get funds from the Panchayat Union for reviving the rest of the tank. This time they evicted around 1.00 ha of encroached land using force and coercion and spent Rs.1.80 lakhs on tank work. Then the encroachers joined together and consulted lawyers and filed a case against the Collector for illegal eviction of their lands. The village farmers were agitated a lot and jointly decided to evict all the encroachments at any cost and collected Rs.25,500. Using this as their contribution they got a sanction order for water harvesting work for an amount of Rs.1.02 lakhs under Village Self Sufficiency Scheme. This time they formed a stable and big bund around the revived water spread area. Also they completely evicted the supply channel encroachers by clearing it using coercive means. By this exercise, they have encircled the entire area of the tank bed. The encroacher sitting in the middle of the tank bed went on an all out offensive against the villagers. He was successful in getting an interim injunction to the works sanctioned by the Government. Now the case is pending in the High Court, Chennai.

Presently the villagers are confronted with the question whether the retrieved tank bed land will remain as common property in the court battle. In case the court upholds the Patta given to the encroacher in the eighties, what would be the fate of the tank. Their efforts to get impleaded in the court case has also not met with success because of the Government Pleader's assertion that it is not necessary for them to get impleaded in the case.

Annexure 2 contains the time line of the encroachment and the tireless tussle between the villagers and encroachers.

4. Learnings

4.1 Customary Practice in Vogue:

The rural communities had their own norms inherited from their ancestors regarding the management of irrigation tanks and various related issues. The tank management by and large still remains with the villagers. Their informal/formal associations take care of such

functions. More important is the water acquisition in the chain of tanks which is dealt with by the villagers, and the Government authorities stay away from this activity.

The above cases stress the importance of collective action of the villagers by organizing committees with stipulated roles and responsibilities. The TFAs also follow routine operation and maintenance works either by appointing water guides/*Maniams* for irrigation or contributing labour or money for cleaning of channels and surplus courses.

4.2 Revenue from Usufructs

In all the selected villages, the farmers reported that they were earlier enjoying full rights over irrigation water from tanks and they had power to utilise the usufructs as desired by them. However in recent years, such use of the usufruct revenues by them is objected to by the government authorities-mainly the Revenue department and not by the Public Works department or the local Panchayats.

The Revenue department collects the tax for 2 C *patta* based on the type of trees planted and recognizes the right of individuals who planted and guarded the trees and allows them to get monetary benefit from them. However, the tank users of present times want to generate some form of revenue from the tanks as a matter of right rather than resorting to 'illegal' means. Moreover the villagers as a forum demand that the customary rights to usufructs which they were enjoying earlier be restored to them and the Panchayats can over see that the funds are utilized for the maintenance of the village tanks rather than undertaking illegal practices.

4.3 Encroachments in Tank system

One of the challenges faced in storing rainwater in the tanks upto their designed capacity, is the encroachments being made along the supply and surplus channels and tank waterspread areas. Such encroachments constrain the carrying capacity of the channels resulting in only partial inflow of runoff into tanks from their catchment areas. The encroachments also induce the encroachers to willfully break the surplus weirs or tank bunds in order to protect their standing crops in the encroached tank bed area from damage. The low storage of tanks caused by such encroachments deprives the poor from having access to the tank water. The existing laws to evict the encroachments are long drawn and are only partially effective. In government, there exists a rule that no water body could be encroached upon by any individual organization and no *patta* right be given to any one to use such land for any purpose other than for conservation of the water body. This rule has also been, in recent times, upheld both by Madras High Court and by the Supreme Court. Yet this is not strictly followed in all cases.

5. Way Forward

As a way forward, the existing laws need a thorough review in order to make them much more stringent so that customary rights of village communities as well as small village water resources, namely, tanks and ponds could be conserved before they become extinct. Like the Reserved Forest Protection Act, the framing of acts to conserve all traditional village water bodies from social evils require to be introduced in the Parliament by the law as well as policy makers.

In the globalization era, for achieving Millennium Development Goals with water as a tool to alleviate poverty, the government has the responsibility to take up legal as well as policy

reforms in favour of Community Managed Natural Resources. It is always beyond doubt that native water wisdom exists over many decades developing the rural economy. These infrastructures need rehabilitation to their design standards to ensure water and food security in the coming years. Adequate policies and resource allocation empowering village communities to own, maintain and manage these small scale tank systems similar to '*Kudimaramath*' and/or '*syndicate agricole*' (followed by the French in Pondicherry) made as a new law. The Central government should try the protection of water resources in the nation by bringing them under 'Concurrent list' of constitution if that can prevent encroachments. In addition, the resources allocated for the revival of these vital village water resources to harvest the water and manage the demand of water by multiple stakeholders effectively, need to be increased manifold. Last but not the least, there is need for similar action based grass root research studies to identify successful customary practices across South India. DHAN Foundation expresses its readiness to take part in such studies related to tank management in the coming years.

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Annexure: 1

The issue raised in the Case are as follows (Para 3.2 of the paper)

The Petitioner Sangam consists of the farmers making a livelihood from the tanks for ages:

1. The farmers are the right holders of the water and government is only doing tax collection recognizing our rights. PETITIONER SANGAM is having the Fishing rights for ages and spending the proceeds for the benefit of the tanks and the village. No single individual gets the benefits of the Fishery. The revenue resettlements have also confirmed the rights of the PETITIONER SANGAM.
2. The proceeds from the fishery is only marginal compared to the stakes on water and agriculture. Therefore the PETITIONER SANGAM will always give priority to farming and will use the entire water even if the proceed from fishery is going to be fully affected for want of Agriculture production in the village. This can not be the case if the FFDA appointed contractors come into picture. 9344056559 pandiyarajan
3. FFDA has only been in existence to promote inland fishery in the district from the water resources. The modern fishery may affect the customary practice of fish farming and not suitable for agricultural areas and tank because the use of chemicals and others may affect the agriculture, sanitation and hygiene.
4. The right of the fishery is a natural or common law right vested with wetland owners and cannot be taken away by the state. Such taking away of the natural and common rights infringes the fundamental rights of the petitioners.
5. Right of fishery is vested with the petitioner from time immemorial and is inseparable from agrarian and irrigation rights. Such a right of occupation, trade or business can not be taken way from the citizens with executive orders without due process of law.
6. The fishery contractor may not provide the water at times of the water scarcity foregoing his losses in scarcity years. Considering the Paddy production and their value to be put in risk for the sake of fishery production it is not worth an economic exercise. No data is made available of such losses to the villagers in such eventualities. No consultation is made before taking away the rights.
7. When the Government is collecting Mean Pasy from the Petitioner, how can it give the same rights to the FFDA for the same activity.
8. The common interest of the village will get affected and the unity and integrity and communal harmony of the villagers will get affected by such action by the government.
9. When the Government still focuses on Agricultural production for basic need fulfillment how can an enterprise like Fishery be made out at the cost of the Agriculture. Since the Fishery production sets out certain quantity of water at the cost of Agriculture.

After ten years of waiting for the courts' decision, the Association was unable to continue the legal battle for want of finance. Therefore the court dismissed the case as not pressed and upheld the Govt's. right over fishing in the tank.

The timeline of the encroachments and the legal battle: (Para 3.3 of the paper)

- ✓ During the 1800's (under Zamindari system). Goundan kulam was maintained by the ryots with the support of the zamin. The map published by the British in the early 1800's clearly depicts the size of the tank and its sources without any doubt. The tank existed in SF No.776 of the village and the total extent of tank water spread was marked as 5.17 ha. The map had been recorded from the archives and used as an evidence in the court case by the villagers. However, the subsequent maps published in the 1980 does not show the extent fully because of the *Pattas* issued in the middle of the tank.
- ✓ During the time of the Zamindars the land tax was collected by Avildhar from the farmers and much of it was used for the maintenance activities. These are narrated and remembered by some of the villagers.
- ✓ After Zamindari system was abolished, the water body was brought under the list of Panchyat Union tanks of the Bodinaickanur Panchayat union. This tank is presently maintained by the GDO of the Panchayat Union. For all practical purposes the BDOs office has to represent the case for eviction of encroachments. But they hardly do so because of their indifference or lack of particulars.
- ✓ This tank was used for ground water recharge after the 1950's and hence more than 60 wells sprung up in the command area benefiting around 200 acres. The functioning of the tank was reduced from the direct source to an indirect source rendering the tank bed vacant most of the time. The encroachers then started their act because of the farmers' indifference and neglect. A complete neglect by the villagers had resulted after the intense well irrigation in the 1960's, all works attended by the villagers such as clearing of the supply channels, protecting the tank from the encroachments were given up.
- ✓ More number of wells were dug for irrigation in the later years and depth has been continuously increased and reached around 120 feet, making agriculture economically unviable.
- ✓ Most of the wells dried in the late eighties due to over exploitation of ground water resulting from the poor status of recharge capacity. By then, the tank water spread area was steadily encroached by the fore shore farmers. The encroachers started to cultivate the land and paid land tax with penalty which is a meager amount compared to the realization. There were 10 encroachers cultivating 3.70 ha of land in an intensive manner. They also dug wells inside the tank for irrigation purposes and got electric by using illegal means for pumping water.
- ✓ The survey number 776 of the older settlement of Nineteenth Century got changed into S.F No.346 in the year 1981 after the re-survey. The fragmentation of the tank bed was marked without giving any notice to villagers and hiding from the knowledge of the ayacutdhars. This has resulted in the encroachers getting *Patta*.
- ✓ The new realization by the farmers had come after a series of failures of their wells. They started working for eviction and sending petitions to various officers and none of them worked. They organized themselves into a formal group as Tank Farmers Association in the year 1997 and got it registered and approached the issue with a militant attitude.

- ✓ They secured funds from DRDA, Panchayat Unions and other sources and evicted the encroachers by themselves without any formal support from the lower level bureaucracy. In the same way they cleared the supply channel through coercion, threats and bribing the local officials.

Presently the last and final battle to retail what they have revived is held up at the High Court. No one is sure about what would happen there.

The efforts of the villagers for evicting the encroachments

Sl No.	Date	From	To	Purpose	Outcome
1.	23.12.85	MLA, Bodi (after several pleas from the villagers)	Chief Minister, T.N	For tank renovation and encroachment eviction	No action was taken
2.	24.01.86	EE, PWD	MLA, Bodinaickanur	Intimation on estimate preparation	Estimate prepared for the rehabilitation by PWD and sent to the 'Government'.
3.	23.12.87	Ex. Village Panchayat President	SE, PWD, Madurai	Request for encroachment eviction and tank rehabilitation	No action was taken
4.	July 97	Tank Farmers Association	District Collector and special officer for Theni	Request for encroachment eviction and tank rehabilitation	Considered for funding
5.	23.08.97	DRDA, Theni	Pradan, Madurai, EE, DRDA, Theni	Order issued for part of the tank Works. No formal efforts were made to evict the encroachers by the administration	The Tank Farmers Association completed the work by recovering a part of the tank bed by convincing and coercion but major part remains encroached.
6.	June 98	Village Panchayat President	District Collector	Request for funds to do a complete rehabilitation work for the tank revival	A part of the works sanctioned and done by the Tank Farmers Association using local coercion.
7.	07.01.99	TFA, President	District Collector	Regarding action against the culprits involved in damaging the check dam in the Suthangai Odai.	No action was taken
8.	22.02.00	DRDA, Theni	EE, DRDA, AEE, DRDA, Pradan, Madurai	A part of rehabilitation works ordered using DRDA funds.	Partial works done
9.	05.03.02	DRDA, Theni	BDO, Bodi, EE,	Order issued for a new check dam	The works were completed after a lot of haggling

			DRDA, Theni	construction in the Suthagangai feeder channel to divert water to the tank	and threats
10.	07.06.02	Encroachers's Advocate	District collector, The Tahsildar, Panchayat Union Commissioner	Notice to stop action against illegal eviction of encroachments of his clients	No reply from the Government and work was progressing because of the farmers' insistence.
11.	05.07.02	Encroachers	District collector, Thasildar, Union Commissioner	Intimation of a stay order	No action
12.	08.07.02	TFA, President	RDO, Uthamapalayam (UPM) Division	Request for action against the persons who resist the works in the channels and check dams	No action
13.	11.07.02	District Federation of Tank Farmers	RDO, UPM	Requesting for supply of records to face the encroachers in court	The court notice and the injunction were given to the farmers. A suitable reply was prepared by the villagers and sent to the Government Pleader in the name of the BDO for reply in the High court.
14.	19.08.02	TFA, President	Chief Minister, Chennai	For restoration of the tank area from encroachers	No action
15.	06.09.02	The Tank Farmers Association	The Commissioner, Bodi Union	Complaining about the breach on the tank bund by three encroachers	No action
16.	06.09.02	TFA, President	The Village Panchayat President	Information on tank bund damage by group and seeking for action	Letter sent to the commissioner, Bodi, regarding the damages. No action
17.	17.10.02	District Farmers Federation	Superintendent of Polic, Theni	Request for action against the encroachers	No action

1. Introduction

Water users associations are user groups formed to manage irrigation infrastructure and water resources. In development literature and practice, such user groups are often the response for state failure to perform a whole range of public functions. User groups have been formed for the management and supervision of state-run schools, local water supply, sanitation, collection and disposal of solid waste and of course for the operation and maintenance of local irrigation systems. The apparent logic of these user groups seems to be that as direct beneficiaries of the service, they have a strong incentive to ensure that the service is managed well. Internally these user groups are organised quite differently from state delivery systems – instead of having formal structures of accountability and hierarchy, they supposed to be run like community groups, with an implicit assumption that social relations between members of the community will deter office bearers from high jacking the user group and misappropriating its assets.

The level of responsibility that water user associations take on varies. They may be at least partly responsible for service delivery, or they may have supervisory powers over public officials who actual run the system. In other cases they may simply be collectives of consumer-citizens, somewhat akin to a consumer action group. In different countries and states, water user associations also have varying levels of control over, as well as responsibility for the irrigation infrastructure and water resources they manage. They may be completely voluntary associations, sometimes drawing reference from local custom, but with no formal handover of responsibility and management control from formal state institutions. Others, like the water user associations of Orissa are formal state institutions, almost like a limited form of local government.

My paper looks at what Orissa's Pani Panchayat law does, in terms of transfer of property rights and the position of the state vis-à-vis its water user associations after the law came into effect. The paper will look at whether, and to what extent the Pani Panchayat law brings about a privatisation of water through the divestment of rights and responsibilities. Yet the 'law' of Pani Panchayats is mainly an administrative reform of fairly recent origin, and it is in fact part of a cluster of similar reforms that have been implemented in many Indian states and elsewhere in the world with the support of multilateral organisations. Looking at the immediate policy context provides some insight into the administrative decision-making process behind the law, but finally it is more important to look to the local political economy to understand the motivations and possible impacts of the law/ reform in the local context.

2. What does the Pani Panchayat Law do?

Water user associations reflect a shift away from the command model of government, preferred by bureaucrats in the colonial period and further strengthened by Indian state governments in the period after Independence. When government irrigation departments took over management and control of irrigation infrastructure, the state took full responsibility for investment in irrigation systems and it also assumed full control over management and decision-making. This management structure prevailed during the Green Revolution period in both Green Revolution states as well as in other less successful states, which suggests that the model itself is neither programmed for government failure nor necessarily success. However,

cases of corruption and failure in state irrigation departments often become the popular context for reform and the setting up of water user associations.

In neo-liberal analyses of water user associations, a distinction is often made between ‘management transfer’ and transfer of property rights¹. Within the ideological framework from which water user associations originate, the transfer of property rights is seen as a way to create stronger private incentives for investment in common pool resources. The management transfer is seen as a lesser form, with weaker incentives for investment and coordination amongst beneficiaries, while at the same time entrusting dysfunctional state institutions with too much ownership. Adopting this lens for a moment, we will look at relevant provisions of Orissa’s Pani Panchayat law to see what form of transfer has been effected. We find that the state has opted not to interfere with ‘internal’ disputes of the user groups as far as possible, and it has delegated considerable degree of operational control over irrigation infrastructure and irrigation water. However, on the other hand, it has retained powers to closely monitor the activities of the user groups and it can revoke the transfer of operational control through the mechanism of ‘competent authorities’.

Powers and functions of Farmers Organisations

In Orissa the relationship between water user associations and the Water Resources Department takes the form of a contract. The Pani Panchayats, also known in the legislation as ‘Farmers Organisations’, enter into an agreement in a prescribed form with the Irrigation Officer.

Section 16 of the Pani Panchayat Act, 2002 provides that objects of a Farmers Organisation is to: ‘promote and secure distribution of water among its users, adequate maintenance of the irrigation system, efficient and economical utilisation of water to optimise agricultural production, to protect the environment, and to ensure ecological balance by involving the farmers, inculcating a sense of ownership of the irrigation system in accordance with the water budget and operational plan.’ Towards these objects, Section 17 of the Pani Panchayats Act vests Farmers’ Organisations with functions that include:

- Preparing a maintenance plan for the irrigation system in the area of its operation at the end of each cropping season and carrying out maintenance works of both the distributory system and minor, sub-minor and field drains in the area of its operation with the funds of the Pani Panchayat.
- Managing the List Irrigation points as may be handed over to the Farmers’ Organisation through a mutual agreement between the two parties.
- Regulating the use of water among the various pipe outlets in its area of operation according to the warabandi schedule of the system.
- Preparing a suitable cropping programme.
- Assisting the Revenue Department in the water rates (or Water Tax).

¹ Groenfeldt, D., ‘Transferring Irrigation Systems from the State to Users: Questions of Management, Authority and Ownership’, Paper presented at the 96th annual meetings of the American Anthropological Association, Washington DC, 1997.

- Collecting fees from water users of the Lift Irrigation points for payment of energy charges, repair, maintenance of machinery and distribution system and for future replacement of machines.
- Resolving disputes between members and water users of its area.

Section 20 of the Act provides that the Farmers' Organisations Panchayats may 'for carrying out the performance of this Act, achieving the objects of the organisation and performing its function, levy and collect such fees as may be prescribed by Government and/ or decided by the organisation from time to time.' In the case of Lift Irrigation points² the Farmers' Organisation can fix a water rate that covers the cost of energy charges and maintenance charges of the project. The Farmers' Organisation can also levy a minimum charge that water users have to pay if they do not consume any water in a particular season.

The Act provides that the Orissa Lift Irrigation Corporation will not collect water tax from the members of a Farmers' Organisation, but the Farmers' Organisation may collect water tax in such the projects and in the manner prescribed by the Government from time to time.

Rule 7 of the Pani Panchayat Rules, 2003³ sets out rights of the Farmers' Organisation, which include rights to receive water in bulk from the Irrigation Projects for distribution among the water users on agreed terms of equity and social justice. It can levy a separate fee for maintenance of the system as well as any other fees or service charges to meet management costs and any other expenses.

Through these provisions there is a clear transfer of operation, maintenance and management responsibilities to the Pani Panchayats. The association taking over these operation, maintenance and management responsibilities is meant to be self-sustaining, supported by user cost payments from its beneficiaries and members. Significantly, the association also regulates the use of water, which is otherwise the property of the state. Presumably, the right to receive water in one's fields is conditional upon making payments of user fees (to the water user association) and water tax (for the state), so the association is in effect selling water to end-use consumers, both on its own behalf and on behalf of the state. The association is also supposed to assist the Revenue Department in the collection of water tax, making it an owner of some rights and an agent of the state in other respects.

The Farmers' Organisation is not expected to fund capital investments in irrigation infrastructure entirely by itself, but it is encouraged to formulate the project and contribute in the investment. A government scheme⁴ provides that for Minor or Lift Irrigation Projects, or for capital investment to renovate existing projects, the Farmers' Organisation can make an application to the District Collector. If the project proposal presented by the Farmers' Organisation is approved, the state bears 80 percent of the capital cost, with a corresponding

² 'Lift Irrigation' points require energy to lift water from the main water channel, as opposed to 'flow irrigation' where the water flows along the natural gradient of the land when the gates between the water channel and subsidiary channel are opened.

³ Vide Notification No 14161-Irr-WB (FOT)-16/2003 of the Govt of Orissa.

⁴ Notification MI-MISC-15/2001 11003 /WR dated 22.03.2002, Department of Water Resources, Government of Orissa.

20 percent contribution from the Farmers' Organisation itself⁵. For new works funded through this contributory model Farmers' Organisation can collect user fees while the state does not levy its water tax. This suggests that in return for their investment in the irrigation infrastructure, the Farmers' Organisation is given more rights in the water that comes through the infrastructure so created. In principle, this also means that a Farmers' Organisation can raise a bank loan to fund their investments in new works, to be repaid through project revenues, i.e., the user fees collected from beneficiaries of the project. For its own share of the capital cost, the state government makes a funding proposal to NABARD, other national government programmes or donor agencies, which is eventually to be repaid by the state. However, as far as the irrigation project itself is concerned, the state's contribution is a government subsidy as it is not meant to be recovered through project revenues. The state government also has a continuing role in approving and actually implementing the construction of new irrigation infrastructure.

Pani Panchayat structure and the role of the state

A closer examination of the structure of the Pani Panchayat system reveals a multi-tiered system, with user-stakeholders represented at several levels. There appears to be a role for government at every level and in every user group entity, where the government retains the right to nominate non-voting members from its departments. These non-voting members can presumably provide both capacity building support (since the departments have longer experience with managing the irrigation system) and supervision, but their roles and purpose have not been clearly defined.

The general body of the Farmers' Organisation is divided into more than one 'chak'⁶. For each chak there is a Chak Committee consisting of one member each from the upper reach, middle reach and lower reach of the chak⁷. Each Chak also elects one of its Committee members to the Executive Committee of the Pani Panchayat. The Executive Committee of the Pani Panchayat exercises the powers and performs the functions of the Pani Panchayat. This Executive Committee may have non-voting permanent invitees nominated by the government from the Department of Water Resources and the Department of Agriculture.

For major irrigation systems, the government may declare a Distributory Area comprising more than one Pani Panchayat. The Executive Committee of each Pani Panchayat is represented in the General Body of the Distributory Committee. This general body elects an Executive Committee of the Distributory Committee. The government may also nominate non-voting members from the Water Resources, Agriculture and Revenue Departments to both the Distributory Committee and the Executive Committee of the Distributory Committee.

The government can also declare a Project Committee for an irrigation system. If distributory areas are delineated within the project area, the Executive Committee of the Distributory Committees are represented on the Project Committees. For other project areas, the presidents of all the Pani Panchayats of the project area form the General Body of the Project Committee. The Project Committee elects its Executive Committee, and in addition, the

⁵ For tribal sub-plan areas and the poorest districts (KBK) the state's capital contribution can be raised to 90 percent of the total capital cost of new works. Notification MI-MISC-15/2001 11003 /WR dated 22.03.2002, Department of Water Resources, Government of Orissa.

⁶ A 'chak' is an area irrigated by one outlet.

⁷ Sections 3 to 9 of the Pani Panchayat Act deal with the multi-tiered structure of the Pani Panchayat system.

government may nominate non-voting members to the Project Committee. The General Body of the Project Committee elects an Executive Committee of the Project Committee. The government may also constitute a state level committee which has government nominees and representatives from the Project Committees.

While the powers of these non-voting government nominees have not been specified, from the fact that the state can nominate non-voting members to every institution in the Pani Panchayat system it is clear that the state continues to retain the power to supervise the functioning of the entire system. Individual Farmers' Organisations may comprise of only a part of an irrigation system, so these organisations would have to work in close coordination with higher level institutions and state agencies.

The state has a continuing role in the actual delineation the boundaries of Farmer's Organisations and other bodies in the Pani Panchayat system, and in monitoring the activities and records of Farmers' Organisations⁸. The government also has powers to appoint officials to exercise powers of the Farmers' Organisation and the Executive Committee till these bodies are constituted or reconstituted.⁹ Most importantly, the government has powers to appoint 'competent authorities' in respect of Farmers' Organisations, 'to perform such duties as may be prescribed'¹⁰ in administrative order. This power of the state seems quite unconditional, except what limits would be imposed on it by principles of administrative law. This means that the department could still revoke powers transferred to Pani Panchayats under the Act, which makes the transfer of power less complete than it would seem at first glance.

Dispute Resolution

However, in contrast to the extensive administrative powers that the state continues to hold, the power of dispute resolution has been delegated to the user groups themselves. Any dispute or difference 'touching the constitution, management, powers or functions' of a Farmers' Organisation arising between the members is to be settled by the Executive Committee of the Farmers Organisation. This can then be escalated up tiers of the Pani Panchayat system, to the Executive Committee of the Distributary Committee, the Executive Committee of the Project Committee, and finally to the State Level Committee whose decision shall be final¹¹. Farmer's Organisations also have the power to compound offences punishable under the Act by imposing a penalty on the person accused of committing the offence¹².

3. Administrative Reform: Policy and Practice around Water User Associations

Water user associations were brought into Orissa under the World Bank assisted Orissa Water Resources Consolidated Project which was initiated in 1996. These early water user associations were registered societies, formed on a somewhat ad hoc basis and they were

⁸ Sections 3-9, 13, 28, 29.

⁹ Section 34.

¹⁰ Section 21.

¹¹ Section 26.

¹² Section 25.

given limited operation and maintenance responsibilities over local irrigation systems. The registered societies did not have formal rules of elections and decision-making, but were instead expected to be driven by the consensus of its members. These water user associations attracted much criticism, and journalistic accounts of the time suggested that there was little to show on the ground, even for water user associations that were being cited as case studies of success¹³. However, confusingly, official documents of the state government and the multilateral agencies declared the same experiment to be successful enough to be considered a basis for more formal and legally mandated Pani Panchayats to be set up across the state¹⁴. Subsequently, the state government has continued to support its Pani Panchayat initiative, and to build on it with new schemes and incentives.

Policy makers of the time could not have been unaware of the dissonance between independent reports and official statements. Within official circles in the state government, there is an (unpublished) view that the early criticism was best dismissed as teething problems of institutions that were not fully developed. It was assumed that enacting a law for Pani Panchayats with formal elections and more extensive roles and responsibilities would strengthen the Pani Panchayats and help them overcome problems of lack of accountability and participation. However, interestingly, the state chose not to prescribe too many formal rules of decision-making such as notice before meetings, quorums for meetings, simple majorities and two-thirds majorities for decisions that are put to vote. Instead, it opted for a community-centric approach, expecting farmers of an irrigation reach to make consensus based decisions.

Yet it is difficult to build a conspiracy theory based on the state government's disregard for early criticism of the water user associations because there is no apparent divestment of public assets to the usual suspects, the multinational companies or local business interests. The reasons behind its going ahead and consolidating its early initiative are perhaps more complicated.

Through the years when the water user associations were introduced and then mainstreamed, the state was under steady pressure to reduce its fiscal deficit by curtailing its expenditure¹⁵. Reducing the size of its Irrigation Department by laying off its field staff, and divesting the operation and maintenance responsibilities of this department to self-sustaining user groups is step towards reducing its expenditures, even though it would only constitute a small portion of the state's overall spending. The World Bank's Pani Panchayat initiative and reformulation of the Irrigation Department into the Department of Water Resources were both part and parcel of the World Bank's US\$ 290.9 million lending for the Orissa Water Resources Consolidation Project of 1996 – in the rationale of multilateral lending these 'sector reform' aspects of the programme would have been thought of as ways to make the core investments

¹³ Sainath, P. 'Little pani, less panchayat', *The Hindu*, Sept 15 2002 and Sept 22 2002 (2-part article).

¹⁴ See Implementation Completion Report (IDA-28010) on a credit in the amount of US\$ 290.9 Million to the Government of India for Orissa Water Resources Consolidation Project, World Bank Report No 31323, 2005, available at www.worldbank.org; Secretariat Establishment Manual-1, Department of Water Resources, Govt of Orissa, *undated*.

¹⁵ See International Bank for Reconstruction and Development and the International Development Association Program Document for a Proposed Loan in the Amount of US\$85 Million and a Proposed Credit in the Amount of SDR 27.4 Million (US\$40 Million equivalent) to India for the Orissa Socio-Economic Development Program, Report No 26550-IN, The World Bank, available at www.worldbank.org

more effective. Perhaps the state government at the time either shared the World Bank's view on necessary sector reforms, or it agreed to swallow the conditionality as a part of the overall lending strategy. The state government's continued support for Pani Panchayats does suggest that decision-makers in the state believe the initiative is positive and should be taken forward. Perhaps this also means that the initiative has vote-winning potential, as after all turning off the tap on the direct operations and maintenance spending of the department is balanced off by decentralisation of funds and power to the Pani Panchayats.

What is more problematic about this initiative is that while the model itself is inspired by instances of volunteerism and social action – Pani Panchayats are expected to come together on their own, register themselves with the state and formulate their own proposals that they can present to the state for funding – there is very little audit to show that the state has been able to encourage healthy forms of volunteerism or social action. There have been a few awareness generating programmes of the state government, but by and large the state has little ability or interest for supporting community initiatives with capacity building programmes. The lack of systematic audit means that future action is not based on an evaluation of successes and failures. Significantly, it also means that the decision-making process does not have to be substantiated, and it cannot in fact be subjected to any meaningful or systematic scrutiny either within the state or outside.

4. Politics of Water user Associations

To make sense of the continued interest in water user associations it is useful to look at where the associations fit into the local agrarian and social structure. This is not to say that the form and specifics of Orissa's water user association policies is somehow unique to a particular agrarian and political structure. In fact, the water user association model of governance reform is quite obviously driven by a 'one size fits all' mindset as the policy is quite similar to what has been implemented elsewhere in the world and across many states of India. However, a policy that was merely imitative of what had been tried out elsewhere in the world would not usually have been sustained and strengthened by a politically astute government unless there were also some local reasons for support.

To get a sense of these local reasons of support, the dynamics of agrarian structure, caste, class and poverty in Orissa are looked at. The water user groups of Orissa are embedded in the agrarian structure of what has been widely classified as one of the most agriculturally backward states of India. Agriculture's share of Orissa SDP has declined rapidly since Independence, from 67 per cent in 1951-52 to 31 per cent in 1999-2000¹⁶. Agricultural activity is, however, still critical to the majority of Orissa's population where, according to the 2001 census, agriculture alone provides direct and indirect employment to around 65 per cent of the total workforce of the state¹⁷.

In the pattern of landholdings in Orissa there are an overwhelming number of small and marginal farmers. A recent agricultural census puts the total number of operational holdings at 3.97 million, with small and marginal farmers (i.e., farmers who cultivate less than two hectares of land) hold 84 per cent of the total. However, this 84 percent of operational holdings of small and marginal farmers constitutes only 52 per cent of the total operational area, which implies that nearly half of all the agricultural land is held by only 16 per cent of

¹⁶ *Orissa State Development Report 2001*, Planning Commission: New Delhi, 2003.

¹⁷ *Ibid.*

landholders. The highest level of disaggregation available in the data is that the largest farmers (who hold more than 4 hectares of land) constitute only 4 per cent of total holdings but occupy a substantial 20 per cent of the total operated area. The picture is further complicated by the fact that a large proportion of Orissa's farmers lack the infrastructure required to make productive use of their land¹⁸. When put together, this data suggests that a small number of large farmers, who are presumably the elite of the farming community co-exist with a large number of small and marginal farmers.

This picture of a small number of elites in a farming community that consists mainly of small and marginal farmers corresponds with other social and spatial aspects of poverty in Orissa. The Orissa State Development Report observes that Orissa has high levels of social inequality¹⁹. The state has a sizeable proportion of SC/ ST population at 38.41 percent, of which 16.20 percent are scheduled castes and 22.21 percent are scheduled tribes, in comparison with a national average of 16.48 percent scheduled castes and 8.08 percent scheduled tribes. The Report also notes that the process of socio-economic transformation in Orissa has been much slower than in other states of the country²⁰. While there have been improvements in the level of rural infrastructure available in the state, according to the Report the politics of 'soft governance' by the state to render patronage to the privileged section of society has meant that investments in rural social and economic infrastructure have failed to reach the real target groups²¹.

Recent research also points to very significant regional differences in the incidence of poverty within Orissa, with considerably higher levels of poverty in the southern and north-western regions as compared to the coastal plains (See table 1)²². These regional differences also correspond with differences in the degree of economic deprivation of different ethnic groups and their spatial concentration. The incidence of poverty among SC and ST population in the southern and northern region is very high, and significantly it is in these regions that 88.56 per cent of the state's ST population and 46.23 per cent of the state's SC population reside.

Table 1: Region-wise and Social Group-wise Incidence of Poverty, Rural Orissa, 1999–2000²³

Region ²⁴	Social Groups			
	SC	ST	Others	All
Coastal	63.63	42.18	24.32	31.74

18 *Ibid.*

19 *Ibid.*

20 *Ibid.*

21 *Ibid.*

22 *Orissa Human Development Report 2004*, Planning and Coordination Department, Govt of Orissa: Bhubaneswar, 2005

23 Estimates of poverty ratio from Arjan de Haan and Amaresh Dubey, 'Poverty in Orissa: Divergent Trends? With Some Thoughts on Measurement Issues', *mimeo*, paper presented at the Workshop on 'Monitoring of Poverty in Orissa', 26–27 February 2003, Bhubaneswar, *Cf. Ibid.*

24 The regions have been classified as: (i) Coastal region consisting of Balasore, Cuttack, Ganjam and Puri districts; (ii) Northern region consisting of Dhenkanal, Keonjhar, Mayurbhanj, Sambalpur, and Sundargarh districts; and (iii) Southern region consisting of Balangir, Kalahandi, Kandhamal, and Koraput districts.

Southern	92.42	88.90	77.65	87.05
Northern	61.69	57.22	34.67	49.81
Orissa	73.08	52.30	33.29	48.01

In this setting, when researching the state's agricultural economy and land distribution pattern, the authors of the State Development Report have a telling narrative of the situation in a few villages located in Southern and Northern regions of Orissa:

'In this village [Haradtal] there exists one watershed to provide irrigation facility to around 100 acres of land during Kharif season and to around 50 acres of land during Rabi season. However, from our discussion held with the poor Dalit people of the village, it was revealed that the watershed of the village, in fact, served the interest of the *Gauntia* (village headman) family mainly. Similarly, in village Dhumamara a new pond to develop a watershed for the people of the locality was being dug up in pre-monsoon season under the food for work programme during April-June 2001. The Dalit Christian households of the village reported that after the completion of the pond it would provide irrigation benefit to the land of one *gauntia* family of Lurkipali. This family owns around 50 acres of land down below the watershed. The villagers had raised objection with the DRDA/ Block Office when this site was selected. However, it was of no avail. With a plea of lack of adequate land in the site chosen by the villagers, the officials decided to locate the project in the present site. (...) In Lumti village one lift irrigation point set up at the bank of river Safai presently serves the interest of one influential priestly Brahmin family of the village. Out of 60 acres of land covered under irrigation, this family alone owns 50 acres of land in the command area of the irrigation point. Apart from that in the so called irrigated village Jarmal it was found that according to revenue record out of 674.48 acres of cultivable land in the village, 234.33 (34.74%) acres were classified as irrigated. However, our enquiry made with the villagers revealed that hardly 50 acres of land in that village was enjoying the benefit of double crops in a year.'²⁵

This anecdotal information only seems to confirm the inequality of power and privilege that the data suggests. In this setting, it is easy to subvert the Pani Panchayat system into an instrument of patronage for the privileged few, whose economic power can then be further reinforced by their priority access to state resources and patronage. The seemingly democratic system for appointment of Pani Panchayat committees and office bearers, with rules for geographical representation and formal elections seem to have not made any radical difference to the pattern of power distribution.

If small farmers do not come together to exercise collective power and use the system of the Pani Panchayats to their advantage, this is partly a problem of social organisation and the state of politics, but given the social setting, the law itself is based on principles that reinforce inherent social inequalities. While the Pani Panchayat system can help channel large amounts of state investment in expansion or repair of irrigation infrastructure, there are few safeguards in the system such as tariff guidelines that can protect the interests of the poorest. This actually means that the lands of marginal farmers (who cannot afford to make a contribution towards operating expenses) would actually not get any of the benefits of the state's capital spending in irrigation infrastructure either. On the other hand, a small number of elites in the agrarian structure can, if they make their share of financial and managerial effort, stand to benefit disproportionately from state subsidies. At the same time, this group could also use

²⁵ *Supra n. 11.*

the Pani Panchayat law to acquire more direct management control over irrigation infrastructure than they would have had under conventional departmental systems, further consolidating their power in the system.

5. Conclusion

Orissa's Pani Panchayat law does not result in a full privatisation of the state's irrigation infrastructure, but it does outsource responsibility for operations and maintenance user groups who are expected to finance their activities through fees collected from users. These user groups act as agents of the state in some of their responsibilities, but more importantly, as far as their main responsibilities are concerned they act on their own behalf. In this respect should they be treated as a form of local government, or as a form of privatisation? This is a question that is never entirely clear for user groups – as in the case of the Farmers' Organisations, they may sign a contract with the main department, but they draw legitimacy from the fact that they are elected from user-citizens. In comparison, a private contractor selected through a public procurement process would have a far more contract-driven relationship with the state.

In a regular privatisation framework, the powers and continuing responsibilities of the state vis-à-vis the contractor and beneficiaries would have to be more clearly defined. Under the present law, the state continues to have a presence, and it can choose to extent its role, but the grounds on which beneficiaries or other aggrieved parties can demand that the state exercise its powers is not laid down anywhere. This loosely defined structure compromises accountability of both department and user group, making the structure imperfect from the perspective of property rights as it results in economic incentives that are not clearly defined. The problems of lack of accountability and transparency also become more serious when we look to the social and economic setting in which it the law is implemented, for the nebulous structure of the system makes it difficult to make rights based demands at the level of local implementation.

The lack of audit and performance monitoring of the Pani Panchayat system creates an information vacuum that makes it difficult to scrutinise or discuss the state's decision making process. Where there are undeniable deep rooted differences and inequalities, the law is also inadequate in that it has no safeguards to protect the interests of its weaker beneficiaries. The law takes no account of the special subsistence needs of small and marginal farmers. It is free to set its tariff levels, without anything akin to a base tariff level for a specified amount of basic consumption. At the same time, the law can also help reinforce existing forms of inequality and exclusion by legitimising privileged access to state subsidies for local elites in the community.

Yet neither a complete privatisation nor a return to full departmental control is desirable or feasible. Given the problems of Orissa's social and economic setting a state-run system is as open to abuse, we are told was the case before the Pani Panchayat reform was introduced. At the same time, given the setting a full privatisation is simply out of the question. This leaves us with few clear policy alternatives, which perhaps was the starting point for hybrid development initiatives like user groups in the first place. A focus on the detail of the policy initiative, as I have attempted in this paper, is a response to what I perceive is a lack of policy alternatives. This level of discussion keeps us within the framework of the existing law, but it helps us target the lack of accountability and audit in the framework as well as specific local manifestation of the problems of bias and exclusion.

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IX. GROUNDWATER

NANDAN NAWN, ACCESS TO NATURAL RESOURCE AND ENVIRONMENTAL JUSTICE: CASE OF GROUNDWATER IN INDIA

1. Introduction

Water is life. It provides essential support to all living organisms apart from having other uses, multiple and diversified in intensity and extent. Potable water is distributed across countries for geological reasons and is unrelated to any other factor, like population or level and nature of economic activity that influence and determine demand for this resource.

Historically availability of water determined location of civilisations. In recent times, the demand supply gap threatens to widen to such an extent that likelihood of water wars have increased over the access to this resource, if not ‘clash of civilisations’. Conflicts are having wide range as well as dimensions. Unlike access to land or to the distribution of the products grown over it, the State is unaware of this problem. Across the world, governments as well as international institutions are debating to find ways and means for finding solutions. One of the many mechanisms is change in legal and institutional framework.

Of the two apparently distinct but hydrologically connected sources, historically surface water has grabbed much attention in contrast to ground water, perhaps due to its visibility and relatively easier management apart from political economic reasons related to its allocative mechanism. However, available evidence suggests that our dependence over ground water is increasing and soon it will be *the* source. There are other reasons as well-it provides a few advantages in contrast to surface water as a source; low development costs, absence of lumpiness of capital expenditure, wide availability, reliability especially in times of extreme climate, relatively containment free, requires minimal treatment, and so on¹.

A recent report by the World Bank² mentions, groundwater management as one of the two key challenges that India’s water economy is to face in the future, the other one being improvement in the quality and coverage of formal public water supply and irrigation, and for both role of the government is crucially important. In case of groundwater, the key is the regulation, it states. From the analysis of the experience at the global level, the report finds the key features of ‘the least unsuccessful approach’ groundwater management are: ‘a legal framework which constrains the rights of people to pump as much water as they wish from their land; the separation of land rights and water entitlements, with the latter usually based on historical use; strong government presence to give legal backing for the development of participatory aquifer management associations and to provide the decision-support systems which enable aquifer associations to monitor their resource; and, above all, clarity that the

¹ For a fuller list, see table 2 in Stephen Foster et al., ‘Groundwater in Rural Development: Facing the Challenges of Supply and Resource Sustainability’ 3 (Washington DC: World Bank, 2000); UNEP, ‘Scientific and Technical Advisory Panel to the Global Environment Facility: strategic options and priorities in groundwater resources’, 4 (Washington DC: United Nations Environment Programme, 2004)

² World Bank, ‘India’s Water Economy: Bracing for a Turbulent Future’, (New Delhi: Water Bank, 2005)

primary responsibility for the maintenance of the resource on which they depend is with those who have entitlements to use water from a particular aquifer.’³

The legal and institutional framework described has the objective of managing the resource conforming to the principles of equity, stakeholder participation in allocative mechanism and sustainability—various components of environmental justice. This notion of environmental justice assumes much importance for the resources that are scarce, and there the principle of equity assumes additional importance. ‘Justice is done when people get what they deserve’.⁴ On this question, quite obviously different sections of the society have divergent opinions. The legislature is expected to weigh such claims and counter-claims, before deciding upon its codified form. In the absence of specific codes, the judiciary is to deal with this question within the broader constitutional framework, as has been done in this country in the past. Judicial remedy for conflicts has higher transaction costs for the society, especially in the absence of a specific statute that can allocate the resource.

Section 1 discusses notions of environmental justice while the question of rights that is central to the justice question is analysed in section 2 and in section 3 recent proposals mooted by the Central Government and acts enacted by the States are analysed in the context of theoretical framework discussed earlier.

2. Notion of Environmental Justice

The notion of justice has fairness as one of its aims. It provides an acceptable philosophical and moral basis for democratic institutions and also deals with the claims of liberty and equality.⁵ To Rawls, the basic question is: ‘viewing society as a fair system of cooperation between citizens regarded as free and equal, what principles of justice are most appropriate to basic rights and liberties, and to regulate social and economic inequalities in citizens’ prospects over a complete life?’⁶ This general question is applicable to any goods and services that affect an individual’s welfare or utility and environmental goods are just one of them. However, over time, the importance of this specific type has certainly grown manifold, with increase in its influence over both the social and economic inequalities. Certainly, ‘environmental justice is not a panacea for all social injustices’⁷ but it provides an increasingly important and interesting insight towards broader questions of justice.

In situations where demand is more than supply, the allocation, in general, is concerned with the issue of justice. In situations of abundant supply, the justice question may not crop up at all. But over time, for any non-renewable resource (within a finite time period) like water, for which demand is increasing at a much faster rate than that of supply, scarcity is bound to happen in all societies, albeit at different points of time. For example, in 1999-2000, in Ontario, Canada, a creek ‘disappeared’ temporarily because of excessive taking from the

³ See World Bank, note 2 above, at 66

⁴ Peter S Wenz, *Environmental Justice*, 23 [Albany: State University of New York Press, 1988]

⁵ John Rawls, *Justice and Fairness: A Restatement* 5 (Delhi; Universal Law Publishing, First Indian Reprint, 2004)

⁶ See Rawls, note 5 above at 39 40 41

⁷ Carolyn Stephens et al., ‘Environmental Justice: Rights and means to a healthy environment for all’, Introduction, (University of Sussex; ESRC Global Environmental Change Programme, 2001)

local watershed,⁸ despite the people's unrestricted access to abundant supplies of groundwater in the past.⁹ In other words, members of the society faced with a scarce resource, would seek their fair share at some point of time, and for that purpose the allocation may be re-determined by modifying present arrangements within the governing institutions or altogether changing the institutions themselves.

For any finite resource, regulatory control is necessary irrespective of the arrangement of institutions. 'When restraint is necessary to preserve the environment, it seems that everyone should receive a fair share, and be restrained to a fair degree, in accordance with reasonable principles of justice. This is environmental justice'.¹⁰ It '... mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things'.¹¹ Quite obviously, in absence of voluntary cooperation over the allocation, the state can use force through laws without considering any form of environmental justice.¹²

Two basic premises of environmental justice are: first, 'everyone should have the right and be able to live in a healthy environment, with access to enough environmental resources for a healthy life', and second, 'it is predominantly the poorest and least powerful people who are missing these conditions'.¹³ Other tenets like inter-country, inter-generational equity can be covered through extension of these basic principles.

For the purpose of analyzing the basic theory, environmental justice can be divided into two components: procedural and substantives¹⁴. The procedural aspect deals with the question as to whether all people irrespective of income, caste, class, gender, ability, religion, etc. can meaningfully participate in the environmental decision making or not. The substantive part answers the following questions—first, who are the recipients of environmental justice; second, what is to be distributed; and, third, what is the principle of distribution?¹⁵ This paper focuses on the substantive component; and in this, the subject is the access-poor

⁸ One-fifth of the world's freshwater reserve is in Ontario, see, Canadian Environmental Law Association, 'Water Sustainability', <http://www.cela.ca/coreprograms/water.shtml>

⁹ Environmental Commissioner of Ontario, 2001, 'Ontario's Permit To Take Water Program And The Protection Of Ontario's Water Resources: Brief to the Walkerton Enquiry, available online at <http://www.eco.on.ca/english/publicat/walker01.pdf>

¹⁰ See Wenz, note 4 above, at 10

¹¹ Third of Seventeen principles of Environmental Justice adopted at the First National People of Color Environmental Leadership Summit in Washington DC, October 1991, cited in Andrew Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Dimensions of Social Justice* 23 (Oxford: Oxford University Press, 1998)

¹² Wenz argues that such force is not sufficient for complete replacement of justice and 'a sense of justice is required', See Wenz, note 4 above, at 13

¹³ *Id*

¹⁴ Alternately, it can be explained in terms of two dimensions of social justice— participatory justice and distributive justice. See, Robert Figueroa and Claudia Mills, 'Environmental Justice', in Dale Jamieson, ed., *A Companion to Environmental Philosophy* 427 (Malden, Massachusetts and Oxford; Blackwell Publishers Limited, 2001)

¹⁵ Derek Bell, 'Environmental Justice and Rawl's Difference Principle' 26(3) *Environmental Ethics* 290 (2004); for an alternative viewpoint of social justice that includes dispenser of justice and basic structure or options apart from the questions above, see, Andrew Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Dimensions of Social Justice* 63 (Oxford: Oxford University Press, 1998)

citizens of a resource-rich developing country, India, where a majority of the people depend on agriculture for their living.

On the distributed good, however, a few qualifications are required. Historically, the environmental justice movement in the west has focussed on the ‘bads’ and very recently it has included ‘goods’ as well.¹⁶ One study¹⁷ identifies three types of needs that require access to environmental goods or resources: physical like shelter, heat, clean air and water; economic like transport, infrastructure, shops, work; and aesthetic, mental and spiritual like green space, quietness, access to the countryside. As examples, the study cites lack of affordable warmth and food (or fuel poverty and food poverty), which are typical examples of market failure, and can be corrected by intervention of the government. However, the market cannot satisfy the principles of justice in all situations, groundwater being such an example, which has additional associated problems as well. Even if one eliminates the possibility of mightier cornering of all the resources, access to a scarce good without any restraint will result in ‘tragedy of the commons’ due to the inherent negative externalities originating from every use. In addition, there are multiple uses as well as users. Thus, the allocation has to be made by some agreed standard of justice including voluntary restraint so as to determine the ‘fair share’ of the members.¹⁸

The final question deals with the principles of distribution, like equality, equity, etc.¹⁹ For example, the equality principle for environmental good transcribes into equal rights in contrast to equal burdens for environmental bads. Water, in general, has multiple uses and groundwater, in particular, is geologically distributed in such a manner that the equity principle is more appropriate, the paper considers. This rule calls for equal share to persons who are identical in all respects. However, differences can and do exist between people, and some of them are relevant so as to justify the different treatment of individuals. The question is: ‘which differences should make a difference’.²⁰ There have been vigorous debates in the past in every sphere of society, and irrespective of the conclusion (if that exists ever!), the rule still holds. Different theories of justice perceive these differences differently, discussion on which is beyond the scope of the paper, which simply considers the principle.

One may note here is that, the particular principle of environmental justice which was accepted by society a few hundreds years ago, may not serve the purpose now owing to changes in the power of human beings, particularly with regard to technological advancement that has perhaps the most important influence on the environmental goods. Given the fact that different principles of justice are appropriate at different stages of technological development, as our principles take longer time to change than technologies, at any point of time, we may often face a conflict—that between the appropriate principle and the accepted one that has become obsolete. In this conflict, there are two set of problems. The first one is whether the situation has altered so much that calls for a change in the principle, and the second one deals

16 *Id*

17 *See* Stephens, note 7 above, at Section 2

18 For the pure economic argument, see A Vaidyanathan, *India’s Water Resources: Contemporary Issues on Irrigation* 129 141 (New Delhi: Oxford University Press, 2006)

19 *See* Bell, note 15 above, at 63

20 *See* Wenz, note 4 above, at 23

with the choice among alternate environmental policies that are often contradicting each other. The appropriate choice, after all, cannot be independent of the principle of justice²¹.

Water serves multiple use: drinking, domestic, agricultural and industrial. Each of these activities uses surface as well as groundwater, and at times both. Of the four, agriculture accounts for 92%, drinking and domestic together 5% and industry uses 3%²². Keeping this in mind one of the focus areas of the paper is irrigation, one of the main uses in agriculture.

Over time, the share of groundwater as a source for irrigation has been increased dramatically. It accounted for 55.7 per cent of irrigation water in 1995-96 compared to 28.7 per cent in 1950-51. Correspondingly, the number of wells (both open wells and tubewells) increased from 20.9 millions to 53.5 millions during the same period. Between 1951 and 1994, in contrast to the increase in the total number of open wells and tubewells from 3.9 and negligible to 10.2 and 5.1 lakhs respectively, the number of energized among them increased from negligible for both types in 1951 to 7.2 and 5.1 respectively²³. Factors responsible for such a rapid growth are many—financial assistance to farmers, ‘below-cost’ supply of energy in rural areas, rural electrification, absence of any form of water charges from the supply side and increased requirement for water as an input for ‘green revolution’ technology-based production systems, from the demand side.

A number of studies apart from anecdotal evidences, have pointed out that in different parts of the country the water table is getting lower, resulting in an increase in the length of well depth, as well as a fall in well yields.²⁴ In Gujarat, for example, a study reports that the average depth at which submersible pumps are suspended has fallen from 100 ft in 1971 to 450 ft in 1996.²⁵

It is quite clear that the situation is alarming and society needs to change the environmental policy pertaining to this particular resource. The government has also recognized this position, stating that ‘Complex issues of equity and social justice in regard to water distribution are required to be addressed’.²⁶ The rules and regulations for this purpose will

- (i) define the general principles governing the nature and content of rights of access and use;
- (ii) set up institutional mechanisms and procedures for assigning these rights, monitoring their observance, and enforcing their compliance;
- (iii) specify the role and structure of institutions (state, private, and other non-governmental) responsible for discharging these functions in

²¹ See Wenz, note 4 above, at 30

²² World Resource Institute, as cited in Developing Alternatives, ‘The characteristics of Water in India’, available online at <http://www.devalt.org/water/WaterinIndia/characteristics.htm#Water%20Resources>

²³ For details, See Table-2 and Table-3.

²⁴ See Table-1 for a list of State-wise districts with fall of water level.

²⁵ Navroz K Dubash, *Tubewell Capitalism: Groundwater Development and Agrarian Change in Gujarat 5* (New Delhi: Oxford University Press, 2002); also see the Map 1, showing Over Exploited and Dark (Critical) Blocks, published by Central Ground Water Board, Ministry of Water Resources, Government of India.

²⁶ Ministry of Water Resources, ‘National Water Policy’ para 1.6 (New Delhi: Government of India, 2002).

respect of specific resources and the procedures they are expected to follow;

- (iv) create mechanisms and procedures for resolving disputes and conflicts over these resource.²⁷

In this paper, the focus is on the first aspect only, with occasional reference to the others.

3. The Rights Question

Water right is a 'natural' right, 'arising out of the historical conditions, basic needs or notions of justice with reference to either human nature or that of society', in contrast to legal or contractual right.²⁸ The question on nature and extent of right assumes importance owing to the multiple and often conflicting uses and large number of users across caste, class, gender, ability, religion etc. For the purpose of achieving environmental justice the broad areas of policy and practice where changes are required includes rights and responsibilities.²⁹ 'The basis for determining entitlements and priorities of various uses and users, devising regulatory mechanisms to mediate between competing claims – in short, the legal and institutional framework relating to water—has thus become a very important and urgent issue'.³⁰ Water laws are supposed to 'prioritise and rank various uses of water, drinking, domestic, agricultural and industrial (and perhaps in that order)'.³¹ For the government, at the policy level, water allocation priorities, in general, are in the following order: Drinking water, Irrigation, Hydro-power, Ecology, Agro-industries and non-agricultural industries, Navigation and other uses.³² The moot question is whether the legislation incorporates such prioritisation.

Looking at the notion of water rights from the lens of human rights is of limited use. Nevertheless, it may be worthwhile to note that, right to clean drinking water for survival and for basic human necessities alone can qualify to become the human right, keeping in mind the basic water requirement in quantity terms that can be considered as a fundamental need. Indeed highest tiers of judiciary of the country has also recognised right to enjoy pollution free water for drinking purposes within the ambit of 'right to life', a fundamental right. The courts have held that right to water for other purposes, including irrigation can at most amount to a right conferred under article 300-A of the Constitution or a statutory right.³³ Further, General Comment 15 adopted in November 2002 by the UN Committee on Economic, Social and Cultural Rights, states that, 'The human right to water entitles

²⁷ See Vaidyanathan, note 18 above, at 130.

²⁸ Chhatrapati Singh, 'Water Rights in India', in Chhatrapati Singh eds, *Water Law in India* 10 11 12 (New Delhi; Indian Law Institute, 1992).

²⁹ See Stephens, note 7 above, at section 3.

³⁰ See Vaidyanathan, note 18 above, at 132.

³¹ See Singh, note 28 above, at 9.

³² See Ministry of Water Resources, note 26 above, at para 5. The document recognises that 'Drinking water needs of human beings and animals should be the first charge on any available water' (para 8) and that 'Water allocation in an irrigation system (from surface water sources) should be done with due regard to equity and social justice' (para 9.3).

³³ Tony George Puthucherril, 'Water Resources Management Law: A Case Study with Reference to the State of Kerala' 13 (Kolkata; West Bengal National University of Juridical Sciences, M Phil Dissertation Thesis, *mimeo*, 2003).

everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements.’³⁴

Water rights in India have been both pre-capitalist customary group type as well as post capitalist individual type.³⁵ On the face of competing claims, identification and delimitation of each of them is one the most central and basic issues in water law.³⁶ Apart from the conflict between different uses, there are other dimensions as well: among users for the same use, between the State and the individual, among States and finally between the State and the Centre. It is well established that the Indian Constitution clearly vests the exclusive power to the States for regulating groundwater³⁷. In the absence of State acts, the common law prevails (inherited from British common law) read with the Indian Easements Act, 1882.³⁸ Illustration (g) of Section 7³⁹ of this act entitles an owner of land to extract water and other resources beneath the land without any limit, subject only to the condition that such extraction must not adversely affect the availability to neighbouring users. Two English decisions suggest that inconvenience to neighbours, even when a prior user of water may not have further access due to over-exploitation by co-user(s), cannot become a ground for legal action. In *Chesmore v. Richards* (1859) and *Acton v. Blundell* (1843)⁴⁰, courts held the position that neither it is an injury to the riparian right and nor the easement rights can be invoked, and thus cannot be treated as actionable wrong. Over the years, the judicial positions indeed have changed in other countries, including US. As the country has inherited the same British jurisprudence, it will of interest to have a brief glance at this development⁴¹.

The earliest position of absolute ownership doctrine, which originated in England, reflected the court’s position in the above cases as well as *Roath v. Driscoll* (1850)⁴² in United States. In the latter court held that ‘water... is not, in the eye of the law, distinct from the earth’. ‘Rights in groundwater belongs to the land owner, since it forms part of the dominant

34 Committee on Economic, Social, and Cultural Rights, ‘Substantive issues arising in the implementation of the International Covenant on Economic, Social, and Cultural Rights, General Comment No. 15’ Para 2 (Geneva; UNCESCR, 2002) as cited in World Health Organisation, ‘Right to Water’ 12 (Geneva; World Health Organisation, 2003).

35 See Singh, note 28 above, at 13.

36 Shilpi Bhattacharya, ‘Rights of the State vis-à-vis the Community to Water’, 1 *Indian Juridical Review* 218 (2004).

37 Ramaswamy R Iyer *Water: Perspectives, Issues, Concerns* 101 (New Delhi; Sage, 2003).

38 P Ishwara Bhat, ‘A Comparative Study of Groundwater Law and Policy in South India’, 1 *Indian Juridical Review* 25 26 (2004).

39 It reads: ‘The right of every owner of land to collect and dispose within his own limits of all water under the land which does not pass in a defined channel...’, where defined channel means a contracted and bounded channel, even though the course of the stream may be undefined by human knowledge.

40 A Lakshminath and M Sridhar, *Ramaswamy Iyer’s Law of Torts*, (New Delhi; Ninth Edition, LexisNexis Butterworths, 2003).

41 For details see Lawrence J Macdonnell, ‘Rules Guiding Groundwater Use in the United States’, 1 *Indian Juridical Review* 43 (2003); Joseph Sax *et al.*, *Legal Control of Water Resources: Cases and Materials* 359 (St. Paul, Minnesota; West Group, Third Edition, 2000); George A Gould and Douglas L Grant, *Cases and Materials on water Law* 331 (St. Paul, Minnesota; West Group, Sixth Edition, 2000); Stefano Burchi, ‘National Regulations for Groundwater: Options, Issues and Best Practices’, 2 (Rome: Food and Agriculture Organization, 1999).

42 See Macdonnell, note 41 above, at 43.

heritage’ and ‘[i]n short, groundwater is attached, like a chattel, to land property’⁴³. While uncertainties about the mechanics of the groundwater perhaps led the courts to accept one use affecting the other one, even if concrete evidence was available, ‘courts tended to favour new uses—especially ones with considerable economic importance such as mining—to occur because of their strong commitment to private enjoyment of property’.⁴⁴ In the strict legal sense, this is based on the *ad coleum* principle⁴⁵. By the end of the nineteenth century, with increased understanding over hydrology, New York states highest court in *Forbell v. City of New York* (1900) recognised that one property owner’s ‘unreasonable’ use of groundwater could unacceptably harm another property owner’s ability to also use of groundwater, especially when the defendant is to transfer the water somewhere else and thus preventing its return. The court felt that ‘groundwater development and use is reasonable, for about any purpose, so long as it occurs on the land surface from under which the water was withdrawn’.⁴⁶ Subsequently number of other state courts rejected absolute ownership doctrine and adopted this ‘reasonable use’ doctrine

Around the same time, in another part of the United States, a parallel development was taking place that swung the pendulum back. In 1903 California Supreme Court being concerned over the insufficient protection to the interests of the property owners, formulated correlative rights rule. This rule considers the groundwater as a ‘common supply’ for all property owners having access to it by their ‘natural situation’. ‘The natural rights . . . would therefore be coequal, except as to quantity, and correlative’.⁴⁷ Finally one may mention the prior appropriation doctrine, where withdrawals must be for ‘beneficial’ use, and as the name suggests, this standard protects the ones who first developed and used groundwater against specific types of harm caused by later appropriators.

Quite clearly, absolute ownership doctrine has overrun its course long time ago⁴⁸, and lasted on ventilator for some timer due to imperfect information on the nature of aquifers. ‘Reasonable use’ doctrine may be in perfect order for a primarily agricultural primitive society whose energy needs do not require sizeable share of water for cooling of thermal power stations, ‘off the field’. ‘Rules and institutions that allocate and manage entire functional aquifers and that do so on the basis of safe yield or some other socially acceptable standard seem better suited to today’s needs’.⁴⁹ Indeed, notion of environmental justice, keeping in mind the right to drinking water as human right, the negative right must be

43 See Singh, note 28 above, at 18.

44 See Macdonnell, note 41 above, at 49.

45 Herbert Broom, *Brooms Legal Maxim* 259-60 (1993) as cited in Puthucherril, note 33 above, at 41.

46 *Id.*

47 A later decision in 1975 [*Tehachapi-Cummins Country Water District v. Armstrong*, 1975] by California Appellate Court elaborated the doctrine as follows: ‘each (overlying owner) has a common right to take all that he can beneficially use on his land if the quantity is sufficient; if the quantity is insufficient, each is limited to his proportionate fair share of the total amount available based upon his reasonable need. The proportionate share of each owner is predicated not on his past use over some specified period of time, nor on the time he commenced pumping, but solely on his current reasonable and beneficial need for water’. *Hudson v. Dailey* (1909) as cited in Puthucherril, note 33 above, at 41.

48 For various kind of injustices that result because of this principle, including making of ‘water-lords’ like soft drink MNCs at the cost of thousands of people dependent on the same water source and many others see, Anshul Prakash and Yousa Lachenpa, ‘Bid adieu to *Ad Coleum*: Water lords, MNCs and bias in the Law’, 1 *Indian Juridical Review* 252 (2004).

49 See Macdonnell, note 41 above, at 65.

transformed to a positive one, and that too a statutory right. For other needs, including irrigation, groundwater laws of the states must ensure equity principle.

4. Groundwater Legislation—Contrasting International Experience and Indian Case

The basic feature of environmental injustice in terms of inequalitarian allocation is the joint ownership right of land and usufruct right of water⁵⁰—this is common to ancient Roman law, French Napoleonic Civil Code (including France, Spain and many African and Latin American countries) and Anglo-Saxon common law jurisprudence⁵¹. This perception and treatment of groundwater as a private resource thwarts any ‘measure of equity and control over abstraction and protection of the resource base’.⁵² In contrast, Moslem tradition holds water as a public or communal commodity, and no well can be dug in the vicinity of an already existing well (known as *harim*, forbidden area).⁵³ With increase in number of uses, users and the consequent concurrent developments of a common resource, conflicts are bound to arise. They get resolved through usual judicial remedy, which has significant social cost. For lowering this cost, it is always beneficial to have regulations of groundwater extraction and use. Indeed, over the last few years, number of activities related to groundwater, including and not limited to digging, construction of wells as well as its use and extraction have been brought under direct control of the governments. Usual procedure includes seeking permit or authorization for digging or drilling wells, with more stringent terms and conditions attached to mechanised ones. It may be in the form of relaxed norms or even a complete waiver for manually operated wells, or for specific depth, or for specific uses like domestic and other household needs.⁵⁴

Over time, the legislations across the world have bestowed ‘public property’ status on groundwater and increasingly it is ‘losing the intense private property connotation it has traditionally had and that user rights in it no longer accrue from ownership of overlying land but from a grant of the Government or of the courts’.⁵⁵ This translates a move towards positive right to water and thus a change in the role of the state. Such a status accrues from legislations in the form of ‘statutory vesting of the resource in the public domain of the state’ or ‘statutory vesting in the state of superior user rights’, or ‘statutory vesting in the State of a public trust on behalf of the people’; or from the judicial pronouncements (for example

⁵⁰ Historically the water laws have focused on the surface water, and only in the last hundred years or so, legislations contain specific legal pronouncements pertaining to groundwater management and its use. [S Hodgson, ‘Land and Water—the rights interface’ 73 (Rome; FAO, 2004)].

⁵¹ For details, see Marcella Nanni *et al.*, ‘Groundwater Legislation & Regulatory Provision: from customary rules to integrated catchment planning’, (Washington DC; GW-Mate Core Group, World bank, 2002), FAO, ‘Groundwater Management: The Search for Practical Approaches’, 23 (Rome; FAO, 2003) and Hodgson, note 50 above, at 73.

⁵² Jacob Burke *et al.*, ‘Groundwater and Society: Problems in Variability and Points of Engagement’, in Salman A Salman ed., *Groundwater: legal and policy perspectives: proceedings of a World Bank seminar* 49 (Washington DC; World bank, 1999).

⁵³ Stefano Burchi, *National Regulations for Groundwater: Options, Issues and Best Practices 2* (Rome: Food and Agriculture Organization, 1999).

⁵⁴ See, Burchi, note 53 above, at 3.

⁵⁵ See, Burchi, note 53 above, at 14.

‘public trust’ doctrine)⁵⁶. The legislations, have consistently been justified by the US Courts and Spanish Constitutional Courts in the face of compensation claims, ‘on the grounds that such vesting was justified by the superior common good pursued by the legislation ...’.⁵⁷

A ‘public property’ can only have usufruct rights for the individuals, be it landowners or any other developer, under some terms and conditions. Such terms may specify the duration of the right, rate of extraction, purpose, water duty based on the crops historically grown among other things etc.⁵⁸. The rights are not static and dynamic in nature; the State may reallocate the water to some other use or new user, and consequently the rights also undergo revision. In case of emergency, or non-compliance, rights may be suspended. Moreover, in the face of depletion of groundwater or ‘mining’, in general, stricter regulatory restrictions become applicable in control areas or districts, and thereby all rights may be curtailed which may have been upheld in other districts, or during a different point of time in the same area⁵⁹.

In order to influence the demand for water that is certain to exceed supply in near or not so distant future if not at present, most of the countries use water abstraction charges. The rate structure may vary—for some purpose, like drinking water or for a specified quantity it may be zero, and subsequently it is non-zero depending on volume, area, location and so on. In some countries the rate is even higher than that of surface water, reflecting the relative scarcity of the resource. In almost all the cases, the proceeds are used for research, purchase of rights, etc⁶⁰.

In India, as stated above, the common law tradition holds that groundwater is a chattel to the overlying land⁶¹. Landowners generally regard wells as theirs own and view others, including the government, as having no right to restrict or otherwise control their right to extract water.⁶² At the same time ‘Easement and the irrigation laws ... simply translate sovereignty into ownership or absolute rights of ... government in all natural water... [similar to] other natural resource laws, such as the Forest Act or the Land Acquisition Act’.⁶³ Such vesting of absolute rights by the society over its resources to someone else must be possible with corresponding duties. Further, the concerned laws were enacted by the colonial powers, ‘who tacitly proclaimed sovereign rights in the laws, such as concerning water and forest laws’.⁶⁴ For such priority of right of the state, corresponding duties must come, and then Easement Act and Irrigation laws need to be reworked, which ‘would also be necessitated by the mandate of the Constitution—Article 39(b), (c), which states that all resources of the

⁵⁶ See Hodgson, note 50 above, at 77 – 78.

⁵⁷ See Hodgson, note 50 above at 4.

⁵⁸ For a complete list, see Table 1 in Hector Garduño et al., ‘Groundwater Abstraction Rights: from theory to practice’, 2 (Washington DC; GW-Mate Core Group, World Bank, 2002). Also See Hodgson, note 50 above, at 78.

⁵⁹ See Garduño et al., note 58 above, at 7 8

⁶⁰ See Garduño et al., note 58 above, at 8 9

⁶¹ For a historical overview of water laws, see Iqbal Ahmed Siddiqui, ‘History of Water Laws in India’, in Chhatrapati Singh, eds, *Water Law in India* (New Delhi; Indian Law Institute, 1992)

⁶² World Bank, ‘India Water Resources Management Sector Review: Groundwater Regulation and Management Report’, 19 (Washington DC; World Bank, 1998)

⁶³ See Singh, note 28 above, at 27

⁶⁴ See Singh, note 28 above, at 28

country must be used only for the common good'.⁶⁵ The common good or public purpose needs to clearly identify the 'public', their 'rights' and the 'purpose'. Unless it is done, 'it is ... unlikely that the poor sections of the society will be empowered to claim their rights to water when the state plans to change the users or water use'.⁶⁶

The Indian Constitution has given the States the power to regulate water resources, including groundwater through entry 17, list II, Seventh Schedule. Federal management of groundwater began with the decision of the Supreme Court in *M C Mehta v. Union of India* (1997) mandating the Central Government to act and address various aspects of problems related to groundwater and establish the Central Groundwater Board (CGWB) as a Groundwater Authority (GWA), with a complementary authority in each State. The decision is significant on two counts---first, the states could not take almost any measure for a long time, and second, geologically there is no reason to assume that an aquifer will respect the political boundary of the states, and even countries⁶⁷. In this connection, efforts by the Centre ranged from policy recommendations⁶⁸, to circulation of model groundwater bills and rules. The latest in the series of recommendations is the model bill⁶⁹ that has been proposed by the Centre very recently for the states to enact. Perhaps due to these advices, a few states have enacted ground water legislations⁷⁰.

Beginning with the 1970 proposal, control of ground water is to take place through notification of the affected area. Post notification, any user of tubewell, artesian well or bore well is to take license under stipulated conditions. This condition is to apply for both new as well as existing users. Issue of license was proposed to be subject to availability, quality of groundwater, well density and other relevant factors. It is interesting to note that even then, some notion of prioritization of uses existed. The bill stated that, '[u]ser of wells in agricultural land was not to divert water for non-agricultural purposes or to waste water. Use of water for other purposes was subject to prior permission of the authority'.⁷¹ The draft, perhaps due to uncertainties pertaining to the resource did not include any control of volume of withdrawal or possibility of quantification of annual safe yield.

After a gap of two decades, an improved version of the bill was re-circulated in 1992. Note that, unlike the exception in the State acts for ground water extraction for domestic use (including drinking purposes) from license requirements, the bill stated that '[n]o user of groundwater, excepting small and marginal farmers, were allowed to sink any well in the notified area' without permission from authority. One additional feature of the bill was requirement of registration for providers of well sinking services. This provision find

65 *Id.*

66 *See Singh*, note 28 above, at 29

67 Perhaps, due to our limited knowledge and invisible nature of the resource, this issue has not cropped up till now.

68 The National Water Policy 1987 does mention that groundwater exploitation should be regulated with reference to recharge possibilities and considerations of social equity. NWP 2002 also has acknowledged the concern over overexploitation of groundwater resources in certain parts of the country and has called for judicious and scientific resource management and conservation. But both these documents remain mere policy statements, without making any observation on the changes that might be needed in the legal/constitutional framework for successful implementation of the propositions (*See Iyer*, note 37 above)

69 Ministry of Water Resources, 2005, 'Model Bill to Regulate and Control the Development and Management of Ground Water', Ministry of Water Resources, Government of India.

70 *See Table 5* for the list along with relevant features.

71 *See Bhatt*, note 38 above, at 30.

inclusion in number of state acts, signifying the general trend in bringing the key service providers within regulatory control as well as for standardisation.

Then came the 1996 bill, which was roughly similar 1996-similar to 1992, apart from including factors such as spacing of groundwater structures, long term groundwater level behaviour etc., for consideration by the authority for grant of license. These features are included in all the state acts, and some have additional factors as well.

As a consequence of decision of the Supreme Court in *M C Mehta v Union of India* (Ground water case) setting up of Central Ground Water Board had become inevitable for regulating the indiscriminate boring and withdrawal of ground water in the country. At the same time comes the Draft groundwater rule, 1998⁷² for constituting Central Ground Water Authority (CGWA), with functions such as recommendation of norms for groundwater allocation for various purposes and prioritising them⁷³. In 2001, a revised version of the 1998 draft was circulated titled Ground Water (Development, Protection and Management) Rules, 2001. In contrast to the earlier draft, the rules were proposed to be applicable only in the notified areas and in addition, factors to be considered for notifying an area were made more elaborate⁷⁴.

The final entry, the 2005 Model Bill, for obvious reasons, incorporated all the features of the past exercises. The bill is an improved version of the earlier bills, and is very similar to most of the State acts. There are certain basic and common features between this model bill and State acts, from the point of view of access to ground water, which is given in annexure 1. Relevant features of the State acts are given in table 5.

It would be unfair to paint the State acts in absolutely negative light while looking through the environmental justice lens. All acts do prioritise drinking water, and that too for 'public purpose' and imposes restrictions on groundwater abstraction for any other use including drinking water for private use, if the latter comes in conflict with the former. Restrictions vary from spacing requirements to regulating lifting devices, with the additional control over transportation of water beyond a limit from specified area. What is clear that legislations do give powers to the authorities for taking measures at the time of scarcity, which can be termed as 'crisis management' as its best description. But we do not know how the management will be in 'normal' times, in terms of prioritising water uses as well as ensuring equity in allocation or any other principles of justice.

One must add here that, one of the major limitations of implementation of groundwater legislations is monitoring, in contrast to surface water; in case of latter, identification of possible abstraction points is easy, and thus less costly. For illegal abstraction, usual proceedings follow, but like the power theft, there is no reason to assume that the offence will not be repeated again and again, as the instrument for such action, namely land above the aquifer will remain with the offender⁷⁵. In such a situation, 'perhaps the solution is to re-examine the relationship between land tenure rights and rights to use the water beneath that

72 Proposed under the framework of Environment Protection Act, 1986. It was subsequently revised as Groundwater (Development, Protection and Management) Rules, 2001

73 See Bhatt, note 38 above, at 31

74 The rule is still in the draft stage. As late as in 2002, Regional Directors and Members of CGWB/CGWA met on 8th May, 2002 for finalization of the Ground Water (Development Protection and Management) Rules. [CGWB, 'Annual Report 2003-03', 150 (New Delhi; Central Ground Water Board; 2003)].

75 See Hodgson, note 50 above at 80

land'.⁷⁶ One option is to re-connect rights to groundwater with the land above that would enable those who hold rights to make decisions concerning the management and use. Such an option, despite its obvious benefits in terms of sustainability, fails to cater to the requirements of environmental justice, as the resource will be inaccessible to large sections of population in such a situation. Rather the option could be 'water to the user' like 'land to the tiller' for agricultural operations, without any charge for non-mechanised operations, for specific crops. As crops, lifting device, use change, rate can progressively vary. Further, similar to land, commercial operations can be charged at the highest, and for preventing arbitrage, transportation of water in raw or packaged form may be controlled.

5. Concluding Remarks

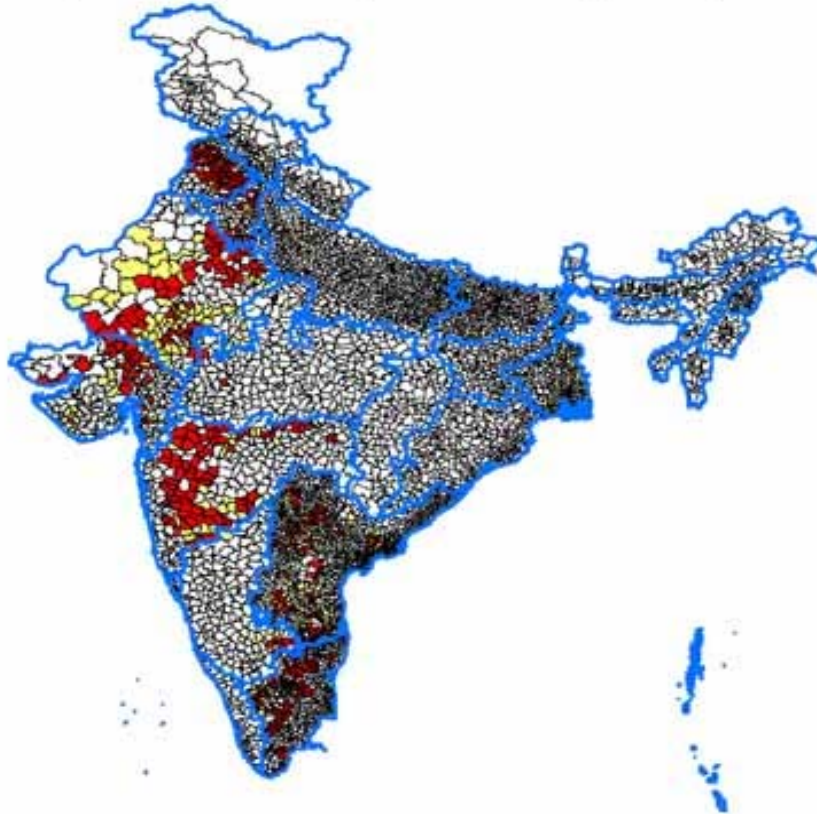
A young democracy like India perhaps will spend some more time in incorporating principles of environmental justice in the concerned regulations. In the United States, the development started more than two hundred years ago, and process is still on. Clearly, the laudable efforts of the judiciary in this regard has its own limitations, and a society will gain much more in having a comprehensive policy framework and associated statutes for implementation. With historically marginalized groups asserting their claims, and various civil society organisations ably supporting them, those days are not far off.

MAP 1

76 See Hodgson, note 50 above at 81

Government of India
Ministry of Water Resources
Central Ground Water Board

Map Showing Over Exploited & Dark (Critical) Blocks



Legend

- Over - Exploited Blocks
- Dark/Critical Blocks

Table 1

Name of Districts showing fall of water level (in parts) of more than 20 cm per year during
Pre-Monsoon period

State/ UT	1981-2000 ⁷⁷	(1995-2004) ⁷⁸
Andhra Pradesh	Adilabad, Ananthapur, Chittoor, Cuddapah, East Godavari, Guntur, Hyderabad, Karimnagar, Khammam, Krishna, Kurnool, Mahabubnagar, Medak, Nalgonda, Nellore, Nizamabad, Prakasam, Rangareddi, Srikakulam, Vizianagaram, Visakhapatnam, Warangal, West Godavari	Adilabad, Anantapur, Chittoor, Cuddapah, East Godavari, Guntur, Hyderabad, Karimnagar, Khammam, Krishna, Kurnool, Mahabubnagar, Medak, Nalgonda, Nellore, Nizamabad, Prakasam, Ranga Reddy, Srikakulam, Visakhapatnam, Vizianagaram, Warangal, West Godavari
Assam	None	Jorhat, Nagaon, Sonitpur
Bihar ⁷⁹	Dhanbad, Purb Singhbhum, Darbhanga	Bhagalpur, East Champaran, Munger, Muzaffarpur, Navada, Saharsa, Saran
Chhattisgarh	Bastar, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, Satna, Sidhi	Bastar, Bilaspur, Dhamtari, Durg, Janjgir-champa, Kanker, Kawardah, Koroya, Mahasamund, Raigarh, Raipur, Rajnandgaon, Surguja
NCT of Delhi ⁸⁰	Mehrauli, Najafgarh and City block	New Delhi, North West, South, South West
Gujarat	Ahmedabad, Amreli, Banaskantha, Bharuch, Bhavnagar, Jamnagar, Junagadh, Kheda, Kutch, Mehsana, Rajkot, Surat, Surendranagar	Ahmedabad, Amreli, Banashkantha, Bharuch, Bhavnagar, Dangs, Gandhinagar, Jamnagar, Junagarh, Kheda, Kutch, Mehsana, Panchmahal, Rajkot, Sabarkantha, Surat, Surendranagar, Vadodara, Valsad
Haryana	Ambala, Bhiwani, Faridabad, Gurgaon, Hisar, Jind, Kaithal, Karnal, Kurukshetra, Mahendergarh, Panipat, Rewari, Rohtak, Sonapat, Yamunanagar	Ambala, Bhiwani, Faridabad, Fatehabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Mahendragarh, Panipat, Rewari, Rohtak, Sirsa, Sonipat
Himachal Pradesh		Kangra, Kullu, Mandi, Sirmur, Solan, Una
Jharkhand		Dhanbad, Dumka, Hazaribagh, Lohardaga, Pacchim Singhbhum, Palamu, Purvi Singhbhum, Ranchi
Jammu & Kashmir		Jammu, Kathua, Rajouri, Udhampur
Karnataka	Bangalore (Rural), Bellary, Belgaum, Bidar, Bagalkot, Bijapur, Chitradurga, Devangiri, Dharwar, Gadag, Gulbarga, Haveri, Hassan, Kolar, Mysore, Chamarajanagar, Raichur, Shimoga, Kapol, Tumkur, Uttara Kannada.	Bagalkot, Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chamrajnagar, Chikmagalur, Chitradurga, Coorg, Dakshin Kannada, Dharwad, Gadag, Gulbarga, Hassan, Haveri, Kolar, Koppal, Mandya, Mysore, Raichur, Shimoga, Tumkur, Uduppi, Uttara Kannada
Kerala		Idduki, Kanoor, Kasargod, Kollam, Kottayam, Mallapuram, Palakkad, Thiruvananthapuram, Thrissur, Wayanad
Madhya Pradesh	Betul, Bhind, Chhatarpur, Chhindwara, Damoh, Datia, Dewas, Dhar, Guna, Gwalior, Indore, Jabalpur, Katni, Khandawa, Khargone, Mandsaur, Morena, Narsingpur, Neemuch, Panna, Raisen, Rajgarh, Ratlam, Sagar, Sehore, Shajapur, Shivpuri, Ujjain, Vidisha	Barwani, Balaghat, Betul, Bhind, Bhopal, Chhatarpur, Chhindwara, Damoh, Datia, Dewas, Dhar, Dindhori, Guna, Gwalior, Harda, Hoshangabad, Indore, Jabalpur, Jhabua, Katni, Khandwa, Mandsaur, Morena, Mandla, Narsinghpur, Neemuch, Panna, Raisen, Rajgarh, Ratlam, Rewa, Sagar, Satna, Sehore, Seoni, Shahdol, Shajapur, Sheopur, Shivpuri, Sidhi, Tikamgarh, Ujjain, Umaria, Vidisha, West Nimar

⁷⁷ Source: Lok Sabha starred question no. 8 answered on 15.7.02

⁷⁸ Source: Lok Sabha starred question no. 3, answered on 25.7.05

⁷⁹ For 1981-2000, data includes Jharkhand

⁸⁰ For 1995-2004, data is for Delhi only

Maharashtra	Ahmednagar, Akola, Beed, Bombay, Dhule, Gadchiroli, Kolhapur, Nanded, Nashik, Osmanabad, Amravati, Aurangabad, Bhandara, Buldhana, Chandrapur, Jalgaon, Jalna, Latur, Nagpur, Parbhani, Pune, Ratnagiri, Sangli, Sindhudurg, Thane, Satara, Solapur, Wardha, Yavatmal	Ahmadnagar, Akola, Amravati, Aurangabad, Beed, Bhandara, Buldana, Chandrapur, Dhule, Gadchiroli, Gondia, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Mumbai, Nagpur, Nanded, Nandurbar, Nashik, Osmanabad, Parbhani, Pune, Raigad, Ratnagiri, Sangli, Satara, Sindhudurg, Solapur, Thane, Wardha, Washim, Yavatmal
Orissa	Angul, Balasore, Bargarh, Bolangir, Dhenkanal, Gajapati, Ganjam, Jajpur, Kalahandi, Keonjhar, Khurda, Koraput, Malkangiri, Mayurbhanja, Nawapara, Nawarangpur, Sundargarh, Suvarnapur	Angul, Baleshwar, Bargarh, Cuttack, Dhenkanal, Ganjam, Jajpur, Jharsuguda, Kalahandi, Koraput, Kendujhaar, Mayurbhanj, Nawapara, Phulbani, Puri, Rayagada, Sambalpur, Sundargarh
Punjab	Amritsar, Bathinda, Fatehgarh, Ferozepur, Jalandhar, Kapurthala, Ludhiana, Moga, Nawan Shehar, Patiala, Ropar, Sangrur	Amritsar, Bhatinda, Faridkot, Fatehgarh, Ferozepur, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Mansa, Moga, Nawashahar, Patiala, Ropar, Sangrur
Rajasthan	Ajmer, Alwar, Bhilwara, Dungarpur, Ganganagar, Jaipur, Jaisalmer, Jhalawar, Jhunjhunu, Jodhpur, Nagaur, Pali, Rajsamand, Sikar, Udaipur	Ajmer, Alwar, Banswara, Baran, Barmer, Bharatpur, Bhilwara, Bikaner, Bundi, Chittorgarh, Churu, Dausa, Dholpur, Dungarpur, Hanumangarh, Jaipur, Jaisalmer, Jalore, Jhalwar, Jhunjhunu, Jodhpur, Karauli, Kota, Nagaur, Pali, Rajsamand, Sawaimadhopur, Sikar, Sirohi, Tonk, Udaipur
Tamil Nadu	Coimbatore, Cuddalore, Dharmapuri, Kancheepuram, Kanyakumari, Madras, Pudukottai, Sivagangai, Tanjavur, Theni, Tirunelveli, Thiruvallur, Tiruvannamalai, Thiruvallur, Tuticorin .	Chennai, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Kanyakumari, Karaikal, Karur, Madurai, Namakkal, Nilgiri, Perambalur, Ramanathapuram, Salem, Sivaganga, Thanjavur, Theni, Tiruchirappalli, Tirunelveli, Thiruvallur, Tiruvannamalai, Tuticorin, Vellore, Vellupuram, Virudhanagar
Uttar Pradesh ⁸¹	Agra, Aligarh, Allahabad, Budaun, Bijnor Bulandshahar, Etah, Etawah, Farrukhabad, Fatehpur Ghaziabad, Hardoi, Kanpur, Lucknow, Mathura, Meerut, Moradabad, Rai Bareli, Saharanpur, Unnao	Agra, Aligarh, Allahabad, Auraiya, Azamgarh, Badaun, Baghpat, Ballia, Bijnor, Chandauli, Chitrakoot, Deoria, Etawah, Fatehpur, Gautam Budh Nagar, Ghaziabad, Gonda, Hamirpur, Hathras, Jalaun, Jhansi, Kanpur Dehat, kanpur Nagar, Lakhimpur Kheri, Lalitpur, Lucknow, Mahoba, Mathura, Meerut, Mirzapur, Pratapgarh, Saharanpur, Sitapur, Sultanpur, Unnao
Uttaranchal		Dehradun, Haridwar
West Bengal	Bankura, Bardhaman, Midnapur, N-24 Parganas, Purulia	Bankura, Bardhaman, Birbhum, Haora, Hugli, East Medinipur, Malda, Murshidabad, Puruliya, South-24 Parganas, West Medinipur
Dadra & Nagar Haveli		Dadra & Nagar Haveli
Pondicherry	Pondicherry	Pondicherry

⁸¹ For 1981-2000 data includes Uttaranchal

Table 2
Net irrigated area by source

Source	1950-51		1995-96	
	Million Hectre	Share (per cent)	Million Hectre	Share (per cent)
Surface	14.9	71.3	23.7	44.3
Groundwater	6.0	28.7	29.8	55.7

Source: Adapted from Table 1.2, A Vaidyanathan, *India's Water Resources: Contemporary Issues on Irrigation* 10 (Delhi: Oxford University Press, 2006)

Table 3
Growth of Ground Water Irrigation

Type of Well		1951	1968	1994
Open wells	No (in Lakhs)	3.9	6.1	10.2
	Energised (in Lakhs)	Negligible	1.4	7.2
	Net Irrigated area (in Lakh hectres)	1.5	1.3	1.2
Tubewells	No (in Lakhs)	Negligible	0.4	5.1
	Energised (in Lakhs)	Negligible	0.4	5.1
	Net Irrigated area (in Lakh hectres)	Negligible	4.5	18.4

Source: Adapted from Table 1.3, A Vaidyanathan, *India's Water Resources: Contemporary Issues on Irrigation* 10 (Delhi: Oxford University Press, 2006)

Table 4
Position of Enactment of Legislation on Control and Development of Ground Water Resources in Various States

STATES/UTS	Title of Legislation, if any	Status of Implementation	Remarks, if any
Andhra Pradesh	Andhra Pradesh Water, Land and Trees Act, 2002	Enacted with effect from 18.04.2002	Covers the whole State
Assam	Model Bill to regulate and control the development of ground water has been framed by the State Government	Has been sent to Committee Members for comments	
Bihar		The State Government has set up a Committee to consider the matter and decision will be taken as per recommendations of the Committee.	
Chandigarh		There exists a law requiring permission for withdrawal of ground water in Capital Project Areas.	
Daman & Diu	Ground Water (Control & Regulation) Act, 2002	Draft has been prepared and referred to the Ministry of Rural Development for concurrence	
Goa	Goa Ground Water Regulation Act, 2002	Enacted by the State Legislature on 25.01.2002.	
Gujarat	Bombay Irrigation (Gujarat Amendment) Act, 1976	Enacted legislation on 1987 by amending the act. In force since 1988. ⁸²	Applicable only to nine out of nineteen districts in the State.
Haryana		Various Draft Bills prepared by the State Government.	Drafts for regulation and control of ground water development as well as prevention of waste of ground water, including the one in 1996 has never been passed.
Himachal Pradesh		-do-	
Jammu & Kashmir		The draft Bill is being examined by the State Government	
Karnataka	The Karnataka Ground Water (Regulation and Control) Bill, 2002	Under consideration of the State Government	

⁸² Confusion prevails on the enactment. See, Dubash, note 25 above, at fn. 34.

	The Karnataka Ground Water (Regulation for Protection of Sources of Drinking Water) Act, 1999	Enacted	Covers drinking and domestic purpose
Kerala	Kerala Ground Water (Control and Regulation) Act, 2002	Enacted	
Lakshadweep	Lakshadweep Ground Water (Development & Control) Regulation, 2001	Enacted with effect from 01.11.2001	
Madhya Pradesh	Madhya Pradesh Peya Jal Parirakshan Adhiniyam, 1986		Protection of drinking water sources exists
Maharashtra	Maharashtra Ground Water (Control and Regulation of Development and Management) Bill, 2000	Sent for presidential assent	
	The Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act, 1993	Enacted in 1993	
	Maharashtra Water Resources Regulatory Authority Act, 2005		
Mizoram		Preparation of Draft Bill for regulating ground water with reference to Model Bill for the State is under process in PHED	
Nagaland		State Government views that at this stage it may not be necessary to enact any law	
NCT of Delhi		The State Government proposes to amend the Delhi Water Board Act to accommodate concerns expressed in the Model Bill, draft of which has since been prepared and at consultation stage	
Orissa		The matter is under consideration of Government of Orissa	
Pondicherry	Pondicherry Ground Water (Control & Regulation) Bill, 2002	Passed by the State Legislature and referred to the Ministry of Home Affairs for Presidential assent	
Punjab	Draft on 'Punjab Ground Water (Control and Regulation) Act, 1998'	Draft sent to CGWA for comments	
Rajasthan	Rajasthan Ground Water (Regulation) Bill, 1997	Under consideration of the State Government	
Sikkim		State Government views that enactment of	

		legislation to control the extraction of ground water is not necessary in the State	
Tamil Nadu	Chennai Metropolitan Area Ground Water (Regulation) Act, 1987	Enacted in 1987	Regulates ground water development in Chennai and some of the nearby revenue villages
	Tamil Nadu Ground Water (Development & Management) Bill, 2002		
Tripura		State Government feels it is not necessary to make legislation to regulated ground water development in the State at this stage.	
Uttar Pradesh	Draft Bill on U.P. Ground Water (Control and Regulation Act), 1997	Draft circulated to Members of State Water Council for suggestion and modifications	
West Bengal	West Bengal Water Resources Conservation, Protection and Development (Management, Control and Regulation) Bill, 2000	Has received Presidential assent, with some changes proposed that are to be incorporated in the Bill.	
	The West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005	Enacted in 2005	

Note 1: For the following states adequate information is unavailable: Arunachal Pradesh, Chhattisgarh, Jharkhand, Manipur, Meghalaya, Uttaranchal, Andaman & Nicobar, Dadar & Nagar Haveli.

Note 2: There exists other laws related to water, mainly pertaining to irrigation, which may have indirect connection to regulation and control of ground water extraction.

Source: Annexure II (for position as on 12.03.2003) in Department of Drinking Water Supply, Ministry of Rural Development, 'Fourteenth Report of Standing Committee on Rural Development, Fourteenth Lok Sabha, Demand for Grants (2005-06)' 88 (New Delhi; Lok Sabha Secretariat, 2005); P Ishwara Bhatt, 'A Comparative Study of Ground Water Law and Policy in South India', 1 *Indian Juridical Review* 25 (2004); World Bank, 'India Water Resources Management Sector Review: Groundwater Regulation and Management Report', 21 (Washington DC; World Bank, 1998); IELRC, 'Selected Legal Instruments related to Water', <http://www.ielrc.org/water/doc2.htm>

Table 5
Salient Features of Ground Water legislations

	Coverage	Restriction Type	Nature of Restriction	Remarks
The Karnataka Ground Water (Regulation for Protection of Sources of Drinking Water) Act, 1999	Drinking and domestic use	Spacing of structures	Prohibits sinking of well, without permission, within a distance of five hundred metres from the public source of drinking water, through which government or local authority supplies water to the public	Excludes any other use, and thus quite restrictive in application.
The Kerala Ground Water (Control and Regulation) Act, 2002	Drinking water	Spacing of structures	Prohibits digging of well, without permission, for any purpose within thirty metres from any drinking water source from where water is pumped for public purpose.	Permission to dig the well for the purpose of drinking water or agriculture is deemed to be granted if not communicated otherwise by the authority within stipulated period.
	Any purpose	Extraction Device used	Energised pump with capacity more than 1.5 HP for open wells, and 3 HP for tubewells, borewells and dug-cum-borewells, anywhere.	Reasonable exclusion of users with limited needs
The West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005	Any purpose	Extraction device used	Energised or mechanical pump, anywhere. Wells for public interest, as the State Government may deem fit excluded.	District level and Corporation level authorities can permit well with extraction capacity of upto 50 and 100 cubic metre per hour respectively. Otherwise, permission from State Level authority is required.
The Goa Ground Water Regulation Act, 2002	Any purpose	Spacing of structures	In non-scheduled areas, it prohibits sinking of well, without permission, for any purpose within one hundred metres from any public drinking water source or existing ground water source.	Additionally, for transportation of more than 30,000 litres of water annually from scheduled area, permission is to be taken.

The Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act, 1993		Spacing of structures	Prohibits digging of well, without permission, for any purpose within five hundred metres from any public drinking water source, applicable to all areas.	In water scarcity area, during scarcity period, extraction is regulated for any purpose other than drinking, where the source is located within one kilometer of a public drinking water source. The act quite clearly prioritises drinking water over all others purposes.
The Tamil Nadu Groundwater (Development and Management) Act, 2003	Any purpose		Permission, to be sought for digging of well, except for domestic purpose. Electricity connection for any source without license not to be granted.	In addition, transportation of ground water from notified area requires grant of permission.
Madras Metropolitan Area Ground Water (Regulation) Act, 1987	All purpose		Permission, to be sought for digging of well, except for domestic purpose. Applicable for wells where extraction takes place with the aid of pump set, or with the pump set of capacity not exceeding 0.5 HP in respect of any one well.	In addition, transportation of ground water from notified area requires grant of permission.
Andhra Pradesh Water, Land and Trees Act, 2002	Any purpose		Prohibits digging of well, without permission, for any purpose within two hundred and fifty metres from any public drinking water source, applicable to all areas, except any well for public drinking purpose and hand pump for private and public drinking purpose.	For prohibition of extraction, electricity authority may take steps as well.

Source: Relevant Acts; Bhatt, at 33

Annexure-1

Basic features of the Model Bill, 2005:

- A. The State Authority, in consultation with appropriate bodies, can advise the State/UT to notify an area for control, regulate, use of ground water.
- B. In notified areas, permit is to be obtained by the new users for sinking of wells, save and except water extraction through hand-operated manual pump. This reflects the recognition of the change in groundwater harvesting technology in recent times, in contrast to the state of affairs one-hundred and fifty years ago. Existing users are also to apply for grant of certificate of registration along with following information:
 - i) Description of source of ground water
 - ii) Extraction device used
 - iii) Quantity of ground water withdrawal and hours of operation per day
 - iv) Total period of use each year
 - v) Purpose(s)
 - vi) Approximate population, in case the purpose is drinking water
 - vii) Location and extent of area irrigated, in case purpose is irrigation
 - viii) Details of service, pumping points, etc. for public authority run water supply scheme
- C. The authority can grant or refuse permission, in a time-bound manner, after considering the following factors:
 - i) Purpose or purposes
 - ii) Existence of other competitive users
 - iii) Availability
 - iv) Quantity to be drawn
 - v) Quality with reference to the use
 - vi) Spacing of ground water structures considering the use
 - vii) Long term ground water level behaviour
 - viii) Likelihood of adversely affecting any drinking water source in the vicinity
 - ix) Any other relevant factor
- D. In non-notified areas, new users are to register also.
- E. Users of ground water include all entities, who will extract, use or sell the resource for any purpose including domestic use.

N. NAGARAJ, A COMPARATIVE STUDY OF GROUNDWATER INSTITUTIONS IN THE WESTERN UNITED STATES, FRANCE AND PENINSULAR INDIA FOR SUSTAINABLE AND EQUITABLE RESOURCE USE –SOME LESSONS FOR INDIA

The first part of this study aimed at institutional perspective of groundwater management in dealing with overdraft problems in India and western US. A great deal of management problems relating to groundwater overdraft and use are emerging in both India as well as in western US.

Approaches towards prudent water use*

The Dublin principles and the Integrated Water Resources Management have indicated that water should be treated as an economic good. By hypothesis, overexploitation of groundwater resources in the hardrock areas can be checked by following these principles. In addition inefficiency in the use of water resources can be minimized and environmental problems such as salinity and alkalinity can be under check. Groundwater resource in hardrock area is exhibiting signs of over draft indicating rapid decline in the water table threatening groundwater-based agriculture (Nagaraj and Chandrakanth 1995). Surface irrigation is also subjected to greater vulnerability due to frequent failure of monsoons. While market based and institutional approaches which call for pricing surface water and groundwater and groundwater regulation for instance, are a political economy question, the technological solutions like the appropriate crop pattern, land use and efficient use of water through irrigation technologies, are entirely in the domain of farmers

Legal status of groundwater in India:

The legal status of groundwater is not clear in India. The Easement Act of 1882, recognized customary community rights in surface water based on long use and allowed private usufructuary rights in groundwater by viewing it as an easement, inseparably connected to land. The general rights structure is governed by English common law of absolute ownership (to owners of overlying land) and the resource is legally unbounded (Singh 1990). The rights in groundwater belong to the landowner as groundwater is like a chattel attached to the land property. There is no limitation on the volume of groundwater extraction by a landowner. This has created unequal distribution due to the unlimited power for withdrawal of ground water by the land. Many experts and policy makers have been emphasizing the need for appropriate water rights system for regulating groundwater extraction and use particularly at the individual level. For instance, both the Model groundwater (control and regulation) Bill of 1970, as that of 1992, formulated by the centre, and circulated among the states, for their possible enactment, have proposed some kind of groundwater permits and licensing system. (GOI, 1972 and 1992). Since water is a state subject, the groundwater laws are to be enacted by the states. Unfortunately, no state has enacted any groundwater legislation so far barring Gujarat. The 1976, National Commission on Agriculture suggested criteria to be used for specifying individual rights in groundwater on a physical and quantitative basis, but also in identifying the administrative frame work necessary for their enforcement. This is very similar to that of correlative rights system prevalent in Western US.

Property rights to Groundwater:

* This work forms part of the postdoctoral work carried out at France and USA

In India, groundwater development is under the private ownership regime. The legal status in terms of *de jure* rights is not transparent. Groundwater is attached like a chattel to the land, without any limits on extraction. Thus only the landowner can own the groundwater right implying that the landless does not have any stake in the resource. This clearly reflects the inequity as far as groundwater access is concerned. The table 1 summarises the existing property rights structure relating to irrigation wells in India. Since land ownership is a prerequisite to ownership of groundwater, it is difficult to assign 'open access' nature to groundwater resource (Singh 1993). Whether groundwater is an open access resource or private property resource is still a mute point. Though landowners own groundwater *de jure*, this right is limited by huge investment necessary to tap the groundwater, which makes only restricted access to those who have adequate resources to invest. Under these circumstances the groundwater rights are obscure. Ciriacy-Wantrup (1969), indicates that groundwater is fugitive resource, since definite property rights belong only to those who are in possession i.e., who gets there fastest with mostest.

Table: 1. Nature of Property Rights for Irrigation Structures in India.

Type of well	Rights Structure	State Rights
Wells (private)	Absolute ownership	No rights
Wells (public)	Customary rights of groups/communities	State has power to regulate
Bore-wells (private)	Absolute unlimited rights to extract water beneath his land	No right to own/regulate
Bore-wells (public)	Usufruct right granted	State has power to regulate

Source: Singh, 1993

The Ministry of Water Resources for the government of India mooted the groundwater (control and regulation) Bill during 1970 and revalidated it in 1992 to regulate and control the development of groundwater. This was circulated to all the states with an advice to enact it with necessary modifications since water is a state issue (Singh, 1993).

Institutional Management in Western US:

Each state in the western US, has its own selection of groundwater laws and regulations. Beneficial and reasonable use concepts are one of the main legal boundary conditions on water rights. Under the beneficial use concept, individual own water use rights as long as use is accepted as 'beneficial'. Reasonable use concepts further limits rights to overlying users unless injury to other overlying owners can be avoided. In addition to this, 'public trust' concept being used in western US as a non-legislative approach to initiating water management. The basic idea is that water is a public good, held in the trust for the welfare of the population (Moench 1991).

In western US, the issues of groundwater depletion are being effectively addressed through institutional policy instruments with local control. According to water code, all water within the state is the property of the state, but the right to use may be acquired by appropriation in the manner provided by law. These include formation of natural resource districts with varying responsibilities over groundwater issues, creation of an enabling framework specifying user rights, correlative rights to a reasonable use, issue of permits for extraction, allocating quotas and declaration of moratorium on new wells in critical/over exploited areas.

These regulations enabled to set an upper boundary for extraction of groundwater and made groundwater legally scarce. This has had a profound impact on use pattern and conservation of groundwater in the region. In India, lack of effective groundwater institutions at local level to deal with emerging problems in groundwater development and use has resulted in intergenerational, inter-temporal and inter-spatial misallocation and severe overdraft.

Groundwater Management approaches in Western United States-A case of Upper Republican Natural Resource District in Nebraska

According to water code, all water within the state is the property of the state, but the right to use may be acquired by appropriation in the manner provided by law. States and local governments have traditionally managed groundwater in Western United States. In some states the management systems have been established by state governments and regulated at the state level. In some other states the management has been delegated to local institutions such as a water management or Natural Resource District (Smith 1993). As a result of this local orientation, groundwater management systems have been developed in a unique and different way to address an array of issues pertaining to groundwater management. Compared to other western states of US, Nebraska is heavily dependent on groundwater. About 90 % of the total water withdrawn annually is being used for irrigation. Over-drafting has been a serious problem in many parts of Nebraska besides quality degradation. In some parts of the state water levels decline of up to 50 ft have been reported (Smith, 1993).

Need for regulation

Historically, in many regions of Nebraska groundwater pumping has been faster than it is recharged leading to overdraft. This has several environmental consequences in the region such as increased well depth, drilling of more wells, increased extraction cost and reduced flow in to the streams. Recognizing that continued depletion of groundwater threatens prosperity and quality of life, the Nebraska State legislature created a framework to manage the groundwater resource in 1972. This legal framework enabled to establish Natural Resource Districts (NRDs) which are unique to Nebraska with local leadership responsibilities for protecting groundwater from overuse and pollution.

The Upper Republic Natural Resource District (URNRD) is one out of the 23 districts in Nebraska where the groundwater depletion problem was unabated. The district is solely dependent on groundwater for agriculture and other activities. All uses other than irrigation represented only one percent of the total groundwater uses in the district as evident from the table give below. In the District around 517,000 acre-feet of groundwater were abstracted from the aquifers and used in 1998. Nearly 99 % of this annual total water withdrawn were used for irrigation

Table: 2 Groundwater use pattern in URNRD for the year 1997-98

Type of use	Acre feet used	Percentage of total
Irrigation	512,000	98.91
Domestic/Municipal/Rural villages	3,795	0.73
Livestock	1663	0.32
Industry and Golf	202	0.04
Total	517,660	100

The groundwater irrigation development in the study region has witnessed 3 distinct pattern of growth. From 1940s to 1960s well irrigation was accompanied by flood and sprinkler method of irrigation. In the 1970's there was a spurt in the number of wells with widespread use of centre pivots. This spurred unregulated withdrawal of groundwater in the district. Since 1980s there has been regulation of well irrigation through the local control of Natural Resource District. Currently there are 3200 registered irrigation wells in the district irrigating around 430,000 acres.

Management Structure

There are three distinct stakeholders influencing the groundwater management decisions in the State of Nebraska. At first level, the State in general, provides a legal and policy framework. At the second level, the legislature has enacted local control groups in order to effectively manage the groundwater resources by establishing Natural Resource Districts. Finally at the primary level the users are involved in the management.

In order to conserve, protect, develop and manage the natural resources of the state of Nebraska, the legislation established 24 Natural Resource districts in the state based on the approximate hydrological boundaries of the recognised river basins. The state has given districts a variety of regulatory tools to deal with the problems of groundwater depletion, contamination and user conflicts. The Upper Republican Natural Resource District (URNRD) in Nebraska State is the frontrunner to initiate a variety of controls with local efforts to manage the groundwater resource in the Ogallala region. The URNRD encompasses Dundy, Perkins and Chase Counties began operations since July 1972. Kansas bound the URNRD on the west by Colorado and on the south.

Board

The Board of Directors comprised of 11 members that governs the Upper Republic Natural Resource District. All eligible electors of the district landowners may vote for the election of the Board members at general elections. The election takes place once in four years. The district is divided into ten sub-districts and one Board member is elected from each sub-district and one member at large is elected. Thus locally elected Board of Directors governs the districts and the management comprising the full-time professional faculty runs day to day functions. The Board is an autonomous body responsible for establishing district policies/ programs/ rules and regulations and adopting the necessary budget, in order to fulfil the responsibilities of the district as authorised and required by law. Property tax is the chief source of revenue to the board. A majority of the voting members of the Board shall constitute a quorum and the concurrence of a majority of the Directors present at any regular or special meeting at which such quorum is present shall constitute the official action of the entire Board.

The rules and regulations are approved and enforced by irrigators, with the support of the majority of the local users. The Board has forum to represent the user grievances and suggestions. In case of conflicts the aggrieved person can challenge the board decision and he can appeal for reviewing the decision within 30 days. If he is not satisfied with the decision he can approach the court for redressal. Further the information and other records are open to the public. Thus there is an element of transparency in the administration. The system is based on democratic principles and there is some degree of local control over the management system. This joint management approach enables various stakeholders to participate in the planning and decision-making process in a democratic way and therefore

would legitimate the actions of the board. The URNRD long-term goal is to manage aquifers in the district by balancing groundwater withdrawals with recharge and protecting natural water quality.

Institutional framework for groundwater management

Prior to 1975, Nebraska groundwater law was governed by reasonable use doctrine. According to this rule landowners are entitled to appropriate as much water as can be put to reasonable and beneficial use on their overlying land. The Nebraska Supreme Court also stated that in the event of inadequate groundwater supply, each user is entitled to a reasonable proportion of the whole groundwater supply. Thus Nebraska follows 'Nebraska Rule of reasonable use'. It is a blend of American and California rule of correlative rights. By 1975, this common law framework was slightly amended by legislation. Further, the State has prioritized the uses of groundwater considering domestic as the highest preference followed by agriculture, manufacturing and industries. Thus, the concepts of reasonable and beneficial use formed legal boundaries on water rights for users.

The advent of high capacity pumps and centre pivot irrigation system enabled to expand irrigation by unrestricted pumping of groundwater creating irrigation boom during 1970s. This irrigation boom ignited further spurt in the development of well irrigation creating an imbalance between discharge and recharge leading to fall in water levels in the aquifers. In response to drastic fall in groundwater levels in several regions of the state, the Nebraska Unicameral enacted the Groundwater Management Act in 1975. This law granted a wide range of powers and basic responsibilities to the local natural resource management districts to control the groundwater development. Unlike other local resource districts in the region, Nebraska's NRD's are quite unique in a way they are multipurpose democratic local institutions having a local control over wide range of natural resource management issues. The responsibilities include: soil and water conservation, rural water supply, flood and soil erosion control, recreation, wildlife habitat management and forestry and range management. In order to address the groundwater overdraft problems, the Natural Resource Districts were granted authority to alter the rules and regulations governing use and access to groundwater. In this endeavour the NRD should take approval from the state department of water resources for exercising the rules and regulations and to create a groundwater control area. Thus the NRD's play a key role in state groundwater policy formulation and implementation. Within a designated control area the GWMA provides the NRD's board discretionary options and powers to regulate groundwater development and use. In this endeavour the board has formulated several management approaches to deal with groundwater management problems. These include access and allocation rules, regulatory measures and economic instruments.

Access and allocation rules

- 1) Well licensing and permits: All wells with pumping capacity over 50 gpm in the district require a permit, a meter and an allocation. Thus the free access has been restricted by licensing and permit system.
- 2) Allocation procedure: Each certified acre within an irrigated tract is granted an allocation of 14.5 acre- inch annually. Thus for a 5 year period the total allocation would be 72 acre inches i.e., $(14.5' \times 5 = 72' + \text{carryover from previous period})$. This allocation of 72' is designated as basic allocation. Groundwater users extracting less than the total basic allocation together with unused could be carry-forward to subsequent allocation period without limitation.

- 3) Irrigated acres and tracts: Requires Board approval and certification of irrigated acres to which allocations of groundwater can be applied and reporting of total irrigated acres. There is also a limit on certified acres to 130 per well, for new wells in the critical townships.
- 4) Pooling of groundwater: Board allows for pooling of groundwater allocation across tracts to enable irrigators to annually adjust amount of water applied on individual tracts subject to the condition that the overall allocation is not exceeded as stipulated in the pooling contract. Further, satellite pivots are allowed (transfer of allocated groundwater from one tract to another) for which the allocation is granted but prohibits an increase in the total allocation resulting from the transfer.

The above allocative volumetric management approach has set limits on the volume of groundwater withdrawals by each user. Further, per acre allocation of 14.5 inches provides a user the right to pump a maximum of 72-acre inches of water over a period of 5 years. There are no restrictions regarding the allocation of this quota by the user when, how and how much to be used. If the allotted quota is negative at the end of the 5th year, then for the ensuing 5 year period the irrigator/s will not be eligible to get any allotment.

The district also provided options to the users on how to meet the extraction limits through a system of carry-forward and pooling provisions. The pooling system allows the well owners to combine all allocations from different wells as long as the aggregate allocation does not exceed the sum of the individual wells. The advantage of this system is that the irrigator can apply water to the crops on different scales such as 12’ 13’ 16’ so on based on soil type still meeting the average of 14.5’ of annual allocation.

The estimated consumptive requirement of water for crops in the district is around 25’. Out of this 11-12’ is met through rainfall and remaining is through groundwater. Hence, based on the consumptive use norm an allocation of 14-acre inches has been arrived.

Table: 3. Water allocated and actual use pattern in URNRD

County	1988-92	1993-97
Allocated (ac. inches)/yr.	14.5	14.5
Dundy:		
Av. Actual use (ac. inches)	12.6 (13)	12.2 (16)
Perkins:		
Av. Actual use (ac. inches)	10.3 (29)	9 (38)
Chase:		
Av. actual use (ac. inches)	12.5 (14)	10.4 (28)

Note: The figures in the parentheses indicate percentage reduction from the allotted quota.

As evident from the table: 3, the actual use between two periods has been less than the allocated water. Another interesting feature is that the average actual use has been reducing between 2 periods. This clearly indicates that irrigators are managing the water more efficiently through improved irrigation technology.

In the study area the land values are directly related to the amount of water conserved out of the allocated quota. Thus, the conservation of groundwater has a profound effect on land values in the region.

Regulatory measures

- 1) Spacing requirements: The Board has set minimum well spacing requirements for all new wells drilled in the district. Well spacing requirements have been accepted as a regulatory norm in the district. These regulatory norms have been established basically to prevent direct well interference problems while pumping rather than restricting the access to the resource. Under Nebraska State law the isolation distance from well to well be 600 ft. In critical Townships the spacing requirement is 5,280 ft except those wells used strictly for domestic, livestock or monitoring purpose. Further any irrigation well drilled after June 1981, in the control area the spacing must be at least 1,320 ft from any stock or domestic well not belonging to the groundwater user. In critical area for replacement well in lieu of an abandoned well which is located within 1,320 ft shall be drilled within 150 ft of the abandoned well it replaces.
- 2) Flowmeters: All existing wells for the purpose of irrigation, commercial livestock, municipal and industrial use with a capacity of more than 50 gpm shall have an approved flow-meters installed before April 1980. And the annual water use is reported to the district. This would facilitate for the management to know the actual total volume of water abstracted on each well.
- 3) Critical Townships: Under the current rules, townships are designated critical if the average 3 year groundwater level decline exceeds 0.25 % of the saturated thickness of the aquifer. Once designated critical, the township must remain so designated for a period of 5 years. At the end of 5-year period, the township is either removed from the critical designation or re-designated as critical depending on the change in the saturated thickness of the aquifer. Currently there are 42 critical townships in the district out of 84. This clearly indicates that 50 % of the townships are in critical area.
- 4) Supplemental irrigation wells: The management prohibited supplemental irrigation wells. After 1990 no permit was approved for any supplemental wells.
- 5) Water quality: Board has established water quality criteria and monitoring and remediation procedures. In this regard the URNRD entered into a co-operative agreement with the U.S. Geological Survey to conduct groundwater quality survey. The focus of this survey is to establish a scientifically sound baseline on quality of the groundwater in the district.
- 6) Moratorium: In response to increased pressures to drill new wells in the district the board approved moratorium on well permits and new groundwater allocation in critical areas of the district since Feb 1997. This is the first of its kind to impose the moratorium in the state of Nebraska. This will expire in the month of August 1999. Again continuation or removal of this issue has to be discussed in the Board.
- 7) Variances: The Board may grant variances from the strict application of rules or regulations upon good cause is shown.
- 8) Adjudication: Provides for formal adjudicatory hearings detail general enforcement provisions for carrying out the rules and regulations of the district and specifies

conditions for cease and desist orders. Any groundwater user aggrieved by the Board action may request for a formal adjudication hearing. Any groundwater user found to be violative of these rules and regulations may be required to “cease and desist” withdrawing groundwater until such time the compliance is met.

Market interventions

Market interventions particularly electricity and water pricing are considered to be the strong economic levers that promote adoption of efficient irrigation technologies. However efficient technologies may not ensure the protection of the resource unless there is quantity regulation as farmers continue to expand irrigation as long as it is profitable. The extent of government support for farmers in subsidizing fuel and electricity, credit for well drilling and also support price for the product is virtually absent. Hence the market forces are also playing an important role in irrigation development and use. Unlike in India energy is not subsidized for irrigation pump-sets. Hence the energy cost is most important component influencing the amount of water to be applied. Based on the case studies in the district the energy expenditure alone accounted for 17 % of the total cost per acre. The share of irrigation expenditure in the total cost is around 40 % per acre. Thus the pricing of energy and quantity restriction on the use of groundwater strongly propelled to go for irrigation efficient technologies such as centre pivots. The demand for centre pivots is also swelling over the years, mainly because of water scarcity, shortage of labour to irrigate and high prices of energy. Nevertheless the centre pivot irrigation system has a distinct advantage over other systems. It promoted scale economies and made very easy to manage moisture, nutrients and weed control on the farms with this system of irrigation. The efficiency in water applied is more than 85 %. Thus it served as a comprehensive crop and water management tool for the irrigators operating giant farms ranging from 1000 to 1500 acres. Thus the management approaches followed have two fold impacts. The 1st notable positive effect is stabilization of water table over the years. And the 2nd impact is in terms of increasing irrigation cost to the user by way of huge investments on irrigation equipment. The regulatory institutional framework enabled to create groundwater legally scarce and thus accomplished the objective of sustainability.

Discernible impacts of regulations:

It is clear that most of the rules and regulations primarily targeted to deal with demand management by setting limits on the upper bound for the extraction of groundwater resource. Hence, there has been a remarkable change in the water extraction and use pattern in the regulation regime. As evident from the table 4, there has been decline in the quantity extracted, despite gradual increase in the area irrigated. The per acre water applied has also been dipped from 15 acre inches to 10.5 acre inches. The water level decline in the aquifers also reduced after 1985. The main contributing factors for this change include the local control in terms of allocation and regulation rules, use of more efficient irrigation technologies and improved farm management practices. Thus there is a discernible effect on water savings leading to conservation. Further, the legal framework has defined the user right boundaries hence; free rider problem has been reduced considerably. Further these regulations induced farmers to shift to better water management practices. However there are many anticipated benefits to the users due to regulations. The land values are increasing in the area, as the selling price of land varies directly with the amount of water conserved out of the allotted quota. The rental/lease value of land is also appreciating with the conservation of water. The actual draw down of the aquifer has been reduced for the past 5 years and water table has been stabilised. The URNRD is one of the most innovative institutional governance structure for taking collective decisions and actions on behalf of water users by developing a

combination of management approaches addressing the most pressing issues of groundwater overexploitation in the region.

Table: 4 discernible impacts of groundwater regulations in URNRD

Year	Water extracted and applied (ac.ft)	Area irrigated (in acres)	Average use per acre	Yield per acre (bushels)	Water used per bushel of corn
1975-80 (Average)	520,000	419,920	14.86	-	-
1988-92 (Average)	436,000	442,000	11.8	151	0.08
1993-97 (Average)	398,000	455,000	10.5	200	0.05
Percentage change from:					
1980-92	-16.0	+5.2	-20.0		
1992-97	-9.0	+3.0	-11.0		
Overall change	-23.0	+8.3	-29.0		

Table: 5 Temporal and spatial decline in groundwater level below land surface in the observation wells in the study area (ft)

County	1975	1985	1997	Difference between 1975-85	Difference between 1985-97
Dundy	86	102	116	-16	-14
Perkins	165	172	176	-7	-4
Chase	75	90	95	-15	-5

Source: Upper Republican Natural Resource District Information Packet, Feb 9, 1999.

Some of the key components responsible for the success of URNRD programs are outlined as below:

The legal and physical boundaries of the groundwater resource are generally delineated based on hydrological rather than on political lines. This has facilitated more ease for effective management. Establishment of an enabling framework that is responsive to the local conditions and water management needs of the community formed a hallmark of URNRD. The enabling framework comprised modification in property rights for groundwater use, definition of user rights on volumetric basis, permits and water metering system and allocation of quota has been largely responsible to limit the extraction rates and curtailed the excessive pumping of groundwater. Further the board has forum for conflict resolution in case of any disputes. The management approaches have been perceived as fair and worthy because local users had developed them collectively hence adaptable to the local situation as

the problem is localized in nature. Thus the process of control and command has been replaced by collective and coalesced action locally. The rules evolved and crafted collectively by the board are transparent enabling for the development of the groundwater management system. In the region according to the survey of the board 90 % of the farmers supported the moratorium on new wells. This clearly implies their collective concern for the appreciation of the problem. The measure of moratorium on new wells has reduced further pressure on groundwater. Added to the institutional factors, the two important technological components enabled for better management are; shift in irrigation technologies from flood to centre pivots and access and availability of technical information relating to water tables, extraction and recharge rate of groundwater.

French Model of Water Management

The French Water Law of 1962 and 1992 delineates the principles of water Management. The striking feature of the 1964 Water Act is the creation of Water Agencies and Basin committees. The water Law of 1992, insists on the uniqueness of water resources and imposes measuring devices. In France, water belongs to the '*patrimoine commun de la nation*' (common heritage of the nation, public trust) and the state is custodian of the resource (Montginoul and Rieu, 1996). According to water laws, water is considered to be a resource, as a milieu and as an environmental good to be shared among the different users including nature itself. The water management aims at protecting the overall resource, improving the reliability of supply and promoting water conservation.

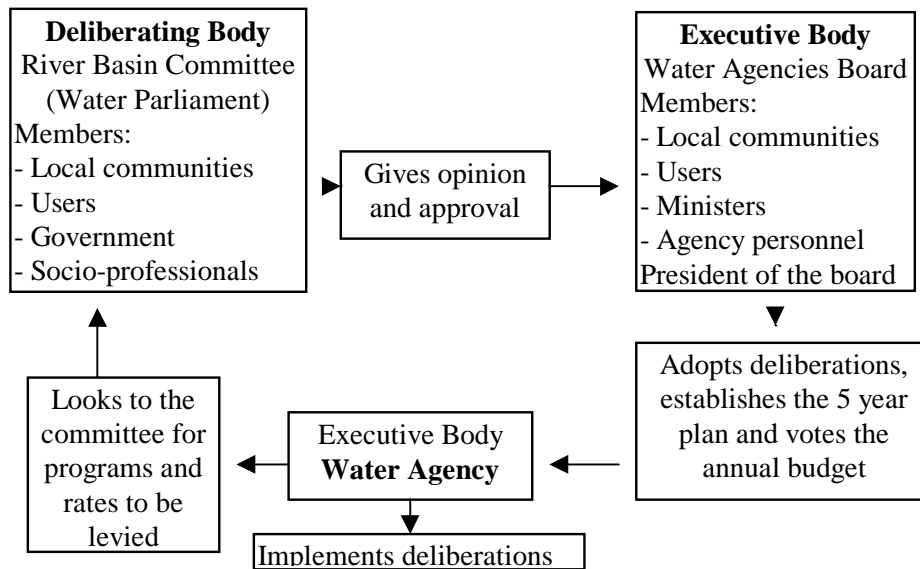
After consulting regional, county and local councils, it elaborates and adopts a Master plan for water development and management (SDAGE), which fixes for each basin the fundamental trends for a balanced quantitative and qualitative, water management.

Basin committee and Water Agencies

Various actors at different levels (Fig. 1) handle the water management in a participatory way. The entire French territory is divided into 6 major catchment areas. Each major water catchment has a river Basin Committee and a corresponding executing authority called the Water Agency (Agence de l'Eau). Indeed, the Basin Committee is a water parliament, because its representation and powers reflect regional rather than central government control. The Water Agency plays a co-ordinating role in bringing together all the concerned interest groups in the basin. In order to deal with the present and future water related problems the stakeholders (local communities, farmers, industries, fisheries environmental protection and irrigation), government and socio-professionals meet in this committee. The interests of concerned parties are represented with different points of view debated and fair policies of water management are decided in trying to satisfy the needs of those most directly concerned. Water Agencies are both government owned corporations and public services (non-profit organisation), whose only obligation is balancing the budget through mopping up resources from water users. The Agency has financial autonomy but without enforcement powers. Each river Basin Committee appoints representatives to the Water Agencies Board, executive branch of the River Basin Committee. The Water Agency implements the deliberations of the Basin Committee. The Prefect – the government representative in each French Département, like Collector in Indian Districts – is the head of the Basin Committee. He manages and co-ordinates the state's policy concerning the issues of permits to draw water, pricing, discharge of effluents and water law enforcement. In times of extreme scarcity, the Prefect can also decide all the uses of water. The Committee is responsible for applying 'user pay' and

'polluters should pay' principles through the use of economic instruments such as taxes, levies and subsidies.

Fig. 1. Water Management in France



The process of price formulation for different users and uses is the task of the water committee of the Water Agency. Outside the limits of irrigation companies, the Water Agencies manage the water needs of other sectors. The agency in each basin prepares a five-year master plan and computes the price structure for different users, in order to defray the supply cost of the water. The cost includes the pollution tax and the resource tax. The pollution tax reflects the cost of treatment of the water to remove the pollutants, while the resource tax reflects the cost of infrastructure. The water committee of the Water Agency proposes the pricing details to the Basin Committee for consideration. The water parliament decides how much to pay for each category of the user and after thorough discussion, there is negotiation and lobbying in the Committee. If there are any disagreements or conflicts pertaining to allocation of water for different uses or water pricing, they will be resolved by mutual discussion and negotiation in the water parliament. The income derived from the users is re-deployed to the economic circuit in the form of aid to communities, industries and agricultural operations willing to invest in improved water purification and development.

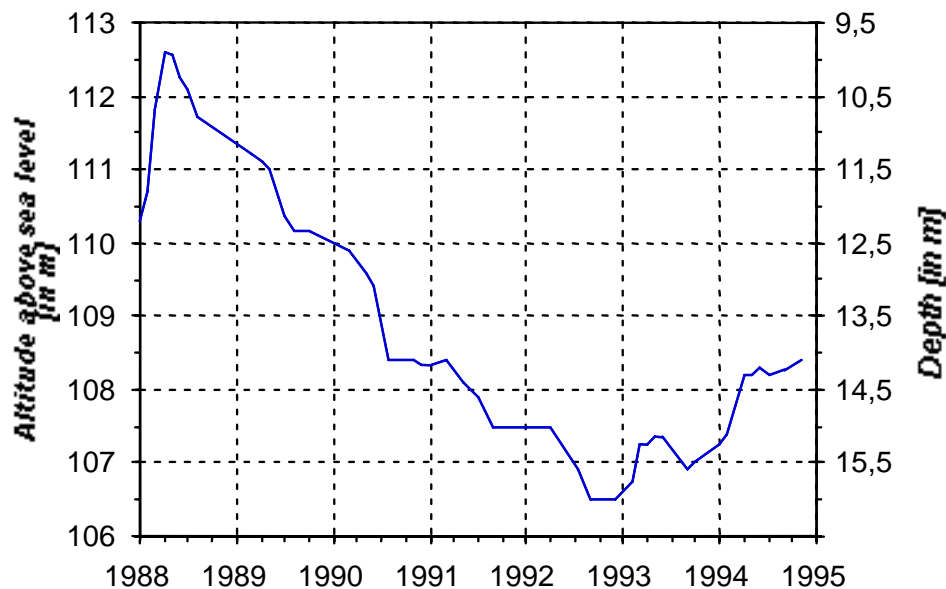
The above-discussed structural and functional framework clearly indicates the principle of participatory approach. There is a collective endeavour in the management of water resources wherein the stakeholders in the resource are integrated in the decision making process, so that each actor is able to make known his own point of view. Another interesting aspect is the complementary role of the Water Agency as a mediator, to initiate dialogue, collate and negotiate with the different users, in order to satisfy the needs of each, subject to the constraints and the legitimate political actions.

The growing problem of groundwater over-exploitation

During the past two decades, In the Loire-Brittany basin of the Beauce groundwater development has been on a massive scale leading to intensive pressure on the aquifers. In fact, the farmers were threatened by a water crisis in 1976, 1986, 1994, and 1996, on account of droughts (Dubois, 1997). Ever since 1976, the critical problems pertaining to groundwater are the depletion of aquifers and the pollution of water with nitrates, due to intensive application of chemical fertilisers and herbicides. From the perspective of farmers, the quality aspects of water are completely diluted, but depletion problems are paramount.

As evident from the figure 2, there has been depletion of the groundwater table to the tune of 6 meters since the 1980's. The emerging environmental aftermath of this effect has been the drying up of the river Conie, in the area. In one of the studies by Loire-Brittany Water Agency similar scenario have been reported (Dubois, 1997). Due to draw down of the aquifer the surface flow from the surrounding streams has also been hampered, because the flow of many rivers and springs depends partially on water emanating from aquifers. Groundwater depletion is one of the factors contributing to the drying up of several major European marsh areas (Burrill Anne, 1998).

Fig. 2 Variation of the Aquifer level in the Beauce Region



The yearly withdrawals from the aquifer was around 300-400 million cubic meters, whereas the total estimated recharge of the basin was 266-333 million cubic meters, leading to a negative balance. For every cubic meter of water recharged, the extraction is more than one cubic meter resulting an imbalance between recharge and discharge. Thus, the withdrawals of water exceed the natural rate of recuperation over time, reflecting a clear sign of overdraft that is tending towards unsustainability. So the situation is not in the purview of safe yield principle of a basin, warranting that the resource use is not socially and environmentally desirable. Although at the macro level water scarcity has been manifested (figure 3), the local level shows that the impact is less discernible since this has not been reflected in sharp increasing extraction cost. This is due to the fact that the irrigators have installed huge capacity pumps ranging from 80 hp to 125 hp depending on the depth of the bore-well, which can adjust the additional depth. Nevertheless, mining of groundwater beyond natural rate of recharge would lead to negative externalities in the longrun.

Measures based on water table status over a period of time

When there is market failure addressing the problems of groundwater overexploitation and environmental protection use of a combination of economic instruments and regulatory measures are required to correct the distortions. The economic levers include appropriate pricing of water and rationing the resource in terms of fixing quotas and extending the incentives and subsidies. The regulatory approaches include issuing permits for extraction, monitoring and enforcing, imposing penalties and sanctions on offenders and putting restrictions on wasteful use of water and overdraft. In France, the three distinct actors concerning the management of water include:

- 1) the Water Agencies (which applies economic instruments as per the norms of Basin Committee);
- 2) the State in general (which acts as a regulatory authority through the Basin Committee), in terms of issuing permits, discharge of aqueous effluents and fixing quotas as and when situation warrant);
- 3) local users at the micro level (user groups). The water users association active participation is equally essential to deal with the open access problems such as groundwater. Further, they should have an access to information concerning the dynamics of the resource in order to understand the gravity of the problem.

In Beauce, the severity of drought has necessitated some institutional changes and has enabled the users to come to a common agreement in order to resolve the crisis and to allocate the scarce water more prudently on a regional scale. Before the commencement of the irrigation season, the irrigators and the concerned authorities in the basin meet together. It is quite interesting to know how the association of pumpers with the concerned authorities meet together, know the status of the aquifers, debate the issues, come to a consensus, vote and then design a rule for implementation. The backdrop for this is provided in the table 6.

Table 6. Background for Organising User Groups and Participatory Action to Manage Aquifers

Context	Crisis	Meeting	Method of management
Since 1976, there has been exponential growth in the development of groundwater irrigation	Water table has steeply decreased in drought years hence, high social pressure.	Between - Administration (Prefer head of the Basin Committee) - Irrigators - Pisciculturists - Tourism representatives - Other professionals.	- Definition of threshold level of water table - Putting restrictions for extraction on a daily fixed time - Fixing quotas of 80 mm of water per hectare, irrespective of the crop during drought

There are 9 observation wells in this area monitored by BRGM (Geological and Mining Research Bureau), an organisation that manages the national data pertaining to groundwater. The average level of water in the wells is a barometer reflecting the status of water table. Every irrigated farmer has access to reliable technical information about the aquifer. Before the irrigation season, normally during spring, the representatives of the irrigator association and the authorities meet and assess the trend of aquifers. Basically, the aim of this meeting is to facilitate discussion, to propose the macro level management of water table, and to limit

the pumping in consultation with users. All the users effectively participate in the discussion, negotiate and know each user's view and constraints. After discussion, the collective decision is a rule and a final decree, which is implemented by the Prefect. Once the rule is voted, it is implemented.

Policy lessons for Peninsular India

Most of the western US states the special Natural Resource Districts are the most common institutional arrangement to deal with a wide spectrum of issues relating to water management. The Nebraska's case provides a classic example of local control over the resource to deal with overdraft issues as well as efficient allocation and use, tuned to the local needs and context of the people.

In order to replicate the Nebraska model to the peninsular India, institutional reforms mainly in the sphere of legal issues and the formation of user groups are required. The legal framework has to be clearly defined in terms of modification in property rights from absolute doctrine of prior appropriation to reasonable use as in the case of Nebraska. Further, physical and hydrological boundaries of the resource have to be delineated on a basin or aquifer level.

Currently, the scale of management relating to water resources is highly sectorised and disorganized. The government organizations such as State and Central Ground Water Board are the formal institutions dealing mainly with the technical issues of groundwater at macro level without any executive powers. Further these institutions do not reflect the local needs and aspirations, as many issues of groundwater are regional or local in nature. Since water is a state subject most laws should be passed at the state level. The model groundwater bill of 1992 has not yet been implemented in any state. The bill in its present form establishes a command and control system for groundwater regulation (Moench, 1998). This bill has been highly criticized, as it has not included local user's representation. In the light of this, the Natural Resource District model, a joint management approach with active people participation could be a promising solution to the Indian context. This could be developed at the regional or a cluster of village's level based on aquifer or watershed, where there is acute overdraft problem. The criteria to delineate a hydrological boundary for management should be flexible reflecting the local nature of problem. The district can initiate a variety of programs and controls for recharge and discharge and other regulatory measures such as spacing norms, control of new wells and regulation of water intensive crops. Elected board of directors through which the interests of all stakeholders can be voiced could govern these organizations. The board should have an overall body comprising of all the users and an executive body ratified by the committee of the farmers. The NABARD can explore the possibility of funding seed money for establishment of such NRD institutions initially. Later on they can generate their own source of revenue through licensing, well permit fees, share amount and other taxes. The members should be required to buy the shares in the groundwater district based on the irrigation command as stipulated by the district.

Designation of critically overexploited fragile areas as done in the case of Nebraska is very important for regulating further overexploitation. In these areas there is a need for regulation of bore-well drilling in terms of declaring a moratorium till the water tables are improved. Management can set allocation quota in overexploited areas for every 5 years based on crop water requirement using most efficient irrigation techniques. The limits should be based on the minimum area or share basis, which ensures reasonable income to the farm family to lead a decent life. Farmers who extract only a part of their quota could carry forward remaining amount to the next period or he can sell it to other needy users. This promotes water markets

and efficient allocation of the scarce resource. Those who exhaust their quota before the allotted period would forfeit their rights and this way the farmers are refrained from using more within a short span of time instead of spreading the use of their quota over the time horizon. This obviously promotes the use of efficient irrigation technologies and leads to conservation.

The regulatory and allocative management approaches based on permits and metering, spacing of wells has been widely used in Nebraska. These approaches need accurate data pertaining to stock of resource, flow, and recharge and discharge rates. Further the logistical costs associated with this approach is colossal since there are large number of well owners involved over space, so these measures could be restricted to those in dark areas where there is no scope for further expansion of well irrigation.

The districts can also regulate the new wells, spacing of wells and well drilling agencies by issuing permits. For all unauthorized wells without permit system power supply can be stopped penalties imposed.

The real cost of extraction of groundwater has been increasing over time and this has serious equity implications for small farmers hence the special programs aimed at improving equity needs to be designed to support small farmers. Further supply of electricity may be made available on a preferential basis to these farmers who venture in-group investments.

In France, there has been a modest success in dealing with groundwater overexploitation in the Beauce area through the involvement of user groups in the decision making process of Basin Committee. The prevailing institutional arrangement, comprised of regulatory and economic instruments, to stall this problem is not effective in Indian context. However, the approaches such as the participation of user groups in the decision making process, the creation of Basin Committees, the imposition of regulatory measures such as issuing of the permits and submission of feasibility reports to drill the wells, the dissemination of vital technical information pertaining to resource use and status, have yielded some degree of success in French context, suggesting to replication of some of these approaches to Indian context.

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SUJITH KOONAN, LEGAL IMPLICATIONS OF PLACHIMADA: A CASE STUDY

Introduction

Plachimada is often cited as a prime example of corporate aggression over natural resources and the consequent denial of the rights of the people. It has also been portrayed as the fight against a multi national corporation by a small section of the local population in order to protect basic human rights, such as the right to drinking water and the right to livelihood. What happened in Plachimada is often raised in discussions about the state's actual record (as opposed to the position that the state ought to take) in the 'fight for basic human rights.' Plachimada, a small village in Kerala, became the centre of controversy after The Coca Cola Company set up a bottling plant there. The village became more famous (or infamous) after incidents of pollution and over extraction of groundwater by the Company, were reported by various organisations and the popular media.

Those who campaigned against Coca Cola's presence in Plachimada allege that the over-exploitation of groundwater by the company had caused the deterioration of groundwater, both in quality and quantity. These are very serious issues in a place like Plachimada where people depend extensively upon groundwater for domestic and agricultural purposes. In this context, the Plachimada controversy raises several legal questions.

Briefly, the case involves the question of right to life, the right to livelihood and the emerging jurisprudence of environmental law. But a micro level analysis reveals that the relevant legal framework is rendered complex due to the co-existence of some statutes, constitutional provisions and principles.

The first part of the paper briefly describes the geography and the socio-economic background of Plachimada. The second part analyses the legal and institutional framework applicable to the case. This part also examines how the government approached the case, which has already been presented before the Kerala High Court. The third part is an analysis of the case law. The Kerala government enacted the Kerala Ground Water (Control and Regulation) Act in 2002 but the Act was notified only in 2003. By this time the matter had already come before the Kerala High Court and therefore, this Act has not been applied by the High Court and is not applicable to the case now pending before the Supreme Court of India. Hence, in anticipation of the future of the case, the fourth part examines the arguments presented before the Supreme Court. Since the Kerala Ground water (Control and Regulation) Act is the statutory framework to prevent and control the situations like Plachimada in the future, an analysis of the Act is also included in the fourth part.

1. The Background

Palakkad district in Kerala State where the Coca Cola plant is situated, is an important agricultural region for the state and is popularly known as the 'rice bowl of Kerala'. The whole area requires large quantities of water for irrigation purposes and depends heavily on canal irrigation and groundwater. Unfortunately, Palakkad district is in the rain shadow area of the Western Ghats and is a drought-prone area. The Hindustan Coca Cola Company set up a plant in this district in the year 2000. The plant occupies an area of around 34 acres of land.

This land had been classified 'arable' by the Government of India. Quite naturally, the site of the plant is surrounded by a number of water reservoirs and canals built for irrigation.¹

Plachimada village of Perumatty panchayat in Chittoor taluk is a small hamlet in Palakkad district. It is also home to several scheduled caste and scheduled tribe populations. The villagers are predominantly landless, illiterate, agricultural labourers. Almost 80 per cent of the population depends upon agriculture for their livelihood. Hence, it is most likely that, the location of an industrial plant, which consumes water heavily, in a socially and economically backward, in a region that is agricultural but drought prone would result in serious adverse implications to the life and the environment.

The people of Plachimada started to suffer adversities within six months after the Company started its activities. It was reported that the salinity and hardness of the water had risen. Apart from the increase in salinity and hardness, the water from some open wells and shallow bore wells nearby was alleged to have an extremely unpleasant strong bitter taste. The people who used this brackish, bitter water complained of a variety of illnesses such as a burning sensation in the skin of the face; greasy, sticky hair; stomach disorders and skin deformities. It was also reported that a few wells in the nearby area had become dry due to the over extraction of groundwater by the Company. The insufficiency of water had also resulted in the decline of agricultural production. Consequently the local economy and life in the area was alleged to have been ruined.

The local people started their agitation against the Company within a year of the setting up of the Company's plant. Mylamma, a tribal woman, had organised the local community against the Company. Later, several non-governmental organisations and other sections of the mainstream society joined the agitation. Due to this hue and cry the Perumatty Grama Panchayat passed a resolution on 7 April 2003 refusing to renew the license given to the Company. This was the beginning of the legal battle. The matter came before the High Court of Kerala on two occasions and is now pending before the Supreme Court of India.

2. Legal and Institutional Framework

This part of the paper focuses on the analysis of the statutory framework and the authorities constituted under the statutes applicable to the case. Often, law is seen as the solution to almost all problems in the society. But the Plachimada case study reveals that the mere existence of law is a very blunt-edged weapon. Equally important is the efficient implementation of the laws. This part of the paper examines the legal and institutional framework, which was in operation since the beginning of the problems in Plachimada. This part also examines the implementation of the legal framework and the flaws in it.

The Coca Cola Company started their operation in the year 2000 and the people's agitation against the Company began in 2002. Meanwhile, the Kerala legal system underwent a major change in 2002 through the enactment of the Kerala Ground Water (Control and Regulation) Act. But the said Act was not applicable as it was notified only in 2003. In the absence of a specific statutory framework, principles such as the public trust doctrine and the common law

1 The site is located barely three kilometers to the north of the Meenakkara Dam reservoir and a few hundred meters west of the Kambalathara and Venkalakkayam water storage reservoirs. The Moolathara main canal of the Moolathara barrage passes less than ten metres north of the factory compound and the main Chittoor River runs very close to the Coca Cola plant.

rule of uncontrolled right of the landowner over groundwater prevailed in the Plachimada case. These principles are discussed as part of the case law analysis.

2.1 Analysis of Pollution Control Laws

This part of the paper examines how the laws (as they existed then) addressed the Plachimada issue and further, how and where did the laws go wrong? The object of this section is to analyse the pollution control laws and the way in which these laws have been implemented. An in-depth research is not necessary to come to the conclusion that there were quite a few legal provisions to prevent and control the pollution problems in Plachimada. The government and its agencies have failed to exercise their legal powers impartially and according to the newly emerging jurisprudence and the needs of contemporary society.

It has been rightly pointed out by the Supreme Court that the law is not always the problem. Often, it is the implementation of the law.² The Plachimada problem could have been solved with the existing laws. If the powers as per the legal provisions (as they existed) had been used in a proper and in a pro-environment manner, the Plachimada problem could have been avoided. The delay on the part of the government to notify the Ground Water Act of 2002 and its irresponsible approach to the implementation of the pollution control laws together resulted in grave injustice, the denial of the fundamental human rights of the people of Plachimada and irreparable damage to the environment.

The Water (Prevention and Control of Pollution) Act, 1974 (hereafter 'The Water Act'), the Environment Protection Act, 1986 (hereafter 'The EP Act') and the Hazardous Wastes (Management and Handling) Rule, 1989 as amended in 2003 (hereafter 'The Rule') are the main components of the legal framework that has been in operation since the beginning of the Plachimada problem. These legislations envisage mechanisms to ensure the quality of the water. Here 'quality' encompasses the quality of water for all its uses such as the domestic, agricultural and industrial.

The central government enacted the Water Act with the object of the 'prevention and control' of water pollution and to 'maintain or restore' the 'wholesomeness' of water. The preamble of the Water Act gives an indication that the Act is meant for protecting and preserving the water in the larger interest of living and non-living organisms. The EP Act also sets forth the same philosophy in a comprehensive manner to cover whole ecosystems. It is expressly stated that the object of the EP Act is the 'protection and improvement' of the environment. Hence these environmental legislations provide the framework for the protection and preservation of the environment.

The word 'pollution' under the Water Act is defined broadly to include all the direct and indirect actions, which can render water harmful or injurious to the public health, safety or to the life of other organisms.³ The authority constituted under the Water Act, the Pollution Control Board, is equipped with sufficient power to carry out the objectives of the Act, that is, the prevention and control of water pollution. The Water Act prescribes a two-tier institutional mechanism, one at the central level (hereafter 'central board') and the other at the state level (hereafter 'state board'). The EP Act also confers powers on the central and the

2 Research Foundation Science Technology Natural Resource Policy v Union of India, Supreme Court of India, Writ Petition No. 657 of 1995, Order dated 14 October 2004, Paragraph 7, available at http://www.scmc.info/sc_orders/supremecourtorder.rtf.

3 The Water (Prevention and Control of Pollution) Act, 1974, Section 2(e) available at <http://www.ielrc.org/content/e7402.pdf>.

state board to implement the Act. Therefore the powers and responsibilities of the pollution control board are very wide and it is the primary agency responsible for taking care of the environment as a whole.

The state board under the Water Act is empowered to enter and inspect any premises, conduct investigation and advise the state government with regard to the prevention, control or abatement of water pollution.⁴ Moreover the state board has also the power to issue any order, which includes the order requiring any person concerned to construct sufficient mechanisms for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent, control or abate water pollution. It also has the power to issue an order of closure, prohibition or regulation of industries.⁵ The Water Act makes it mandatory for any industry likely to pollute water to obtain a license under the Act.⁶

Hence, the state board is responsible for taking all measures to prevent water pollution and provide appropriate remedies in cases of the occurrence of the pollution. The term 'appropriate remedy' includes compensation too. The Supreme Court in *Vellore Citizen's Welfare Forum v. Union of India* held that the polluter pays principle is implied in the environmental legislations of India.⁷ In this context, the state board has also the power to take measures to compensate the victims of pollution and also to redress the environment.

The Water Act also provides a 'super power' to the central government and the central board. The central government and the central board are empowered to give direction to the state board and the latter is bound by such orders.⁸ This is a form of 'reassurance' to make the state board exercise its powers under the Act. Hence, there are enough provisions to deal with issues such as Plachimada, if the authority or the government has a positive attitude towards the implementation of these laws.

The Rule has been enacted under the EP Act to specifically address the alarming problem of hazardous wastes. The Rule lays down detailed schedules containing the list of hazardous wastes to be treated as per the Rule. The hazardous wastes are also classified into different categories of toxicity and the Rule prescribes maximum allowable limit for comparatively less dangerous wastes.

The Rule requires only authorised dealers to deal with the hazardous wastes. The generator of the hazardous wastes is duty bound to give the authority (the Pollution Control Board) all the details about the waste. The generator is also required to obtain permission from the authority to handle, treat, transport and dispose of the waste.⁹ The authority will grant the permission after examining whether the facilities are in compliance with the Rule or not. It is the duty of the authority to make sure that the concerned industry has sufficient mechanisms to treat the hazardous wastes so as to avoid harming public health, public safety and the environment. In the event that pollution does occur, the rule expressly places the liability upon the polluter to reinstate or restore the damaged element(s) of the environment. If the polluter fails, the

4 *Id.* Section 16(h).

5 *Id.* Sections 16(l) & 33A.

6 *Id.* Section 25.

7 (1996) 5 SCC 647, Paragraphs 11-13.

8 *See* The Water Act, note 3 above, Section 18.

9 Hazardous Wastes (Handling and Management) Rule, 1989, Rule 5, available at <http://envfor.nic.in/legis/hsm/hsm1.html>.

authority has the power to order the polluter to deposit an estimated amount that will be adjusted towards the expenses.¹⁰

The legal framework gives the government the necessary powers to take appropriate actions in situations such as the Plachimada case. However the Pollution Control Board has acted in a very irresponsible manner in this case. The legal provisions have not been implemented properly. The inefficient and irresponsible responses of the Pollution Control Board are explained in the next section of the paper.

2.2 Institutions: Powers and Failures

Mainly, there are two statutory bodies capable of dealing with issues such as Plachimada: the Kerala Pollution Control Board (state board) and the Kerala Groundwater Authority. The latter is the body created under the Kerala Ground Water (Control and Regulation Act), 2002 (hereafter the Ground Water Act). Unfortunately, the Ground Water Act was not in operation when the Plachimada issue raised its head. The Ground Water Department of the Kerala state has conducted some studies with regard to the groundwater depletion in Plachimada. Apart from that, the Panchayat also have powers to protect and preserve the water resources in order to safeguard the basic rights of the people.

Various non-governmental and governmental institutions have also conducted a number of studies regarding the problems of pollution and groundwater depletion in Plachimada.¹¹ As a part of governmental responses, the efforts taken by the Central Ground Water Board (CGWB), the Central Pollution Control Board (CPCB), the Kerala Pollution Control Board (KPCB), and the Kerala Ground Water Department (KGWD) are examined in detail. There are substantial differences between the nature, constitution and powers of the Panchayat and those of other institutions. Therefore, the powers of the Panchayat is analysed separately.¹²

The allegation of the Plachimada people was that there was a decline of water level in the wells and a decline in the quality of groundwater. The reports of the KGWD and CGWB concluded that the quality of groundwater in Plachimada does not require immediate governmental intervention. The KGWD report said that the water quality does ‘...not show an alarming result’.¹³ But a close examination of the report presents a different picture. The KGWD report is very clear that three wells out of the 20 examined reveals problems with the quality of water. The CGWB report also contains similar observations, for instance: ‘...chemical constituent and EC of two wells have increased from 2890 to 4290 which are located in Vijayanagaram in the close vicinity of the plant’.¹⁴ However, in the conclusion of both the reports, these observations (that three out of 20 wells were significantly polluted) were analysed as being negligible! At the same time the report expansively praised the water harvesting mechanisms in the premise of the Company. Though the reports found, at the

10 *Id.* Rule 16(2).

11 The studies in Plachimada conducted by various non-governmental organisations are persuasive. Their work has proved to be very effective in creating international social mobilisation.

12 The Panchayat is a local governing body and its members are elected representatives of the people. The Pollution Control Board or the Groundwater Authority is a technical body and its members are mainly scientists and the bureaucrats.

13 Kerala Ground Water Department, Report on the Monitoring of Wells in and Around the Coca Cola Factory in Plachimada, Kannimari, Palakkad district (Kerala Ground Water Department, September, 2003).

14 Central Ground Water Board (CGWB), A Report on the Groundwater Conditions in and Around Coca Cola Beverages Private Limited Company, Plachimada Village, Palakkad District, Kerala (Thiruvananthapuram: CGWB, 2003).

least, a 'few' problems in quality, the reports concluded by saying that there was nothing to link the Company and the pollution.¹⁵ In the meantime, the Primary Health Centre, Perumatty tested the water in the three wells and reported it as unsuitable for drinking purposes.¹⁶

Similar 'irresponsibility', if not criminal negligence, is apparent in the report regarding the decline of water level in the wells situating near to the Company. The CGWB came to the conclusion that there was no instance of the complete drying up of wells. At the same time the KGWD reported the number of dry wells as three.¹⁷ Although the KGWD report says that while the reason for the decline of the groundwater level could be the 'overdrafting' of wells by the Company, it concluded that the major reason was low rainfall in the region. The expert committee appointed by the Kerala High Court also shares this opinion. The expert committee, on the other hand, stated in its interim report that it was the excessive extraction of groundwater by the Company was responsible for adversely affecting the availability of the drinking water and the water for agricultural purposes. The interim report also stated that that certain health hazards and the environmental pollutants were also caused by the Company. But the expert committee turned round about by neglecting the facts of pollution problems in the final report. Even if the opinion of KGWD and CGWB is taken into account, several questions arise. How did the Company get the permission to operate in a low rainfall, drought prone, agricultural area? Why didn't the authorities consider the possible impact of the plant on the local people, local economy and the environment? Why didn't the authorities take actions immediately after finding incidents of pollution in Plachimada?

The irresponsibility and the attitudes (biased in favour of the big multinational companies) of the Kerala Government is very clear in a recent report jointly prepared by the KGWD and CGWB, and titled 'The Dynamic Ground Water Resources of Kerala as on March 2004'. The report is a reassessment of the groundwater resources and its present utilisation (block-wise) and also classifies the blocks as 'safe', 'critical' and 'over exploited.' It is based on this report that the five blocks including the Chittoor block have been declared 'over exploited'. Plachimada falls in the Chittoor block. The astonishing fact is that the report has left out one block out of the 152 blocks in the state and that block is Malampuzha block. The Kanjikode Industrial Estate and Puthussery Panchayat are in Malampuzha block. This is the place where Pepsi and a number of other water-reliant firms are operating and where Coca Cola proposes to move to as a last resort.¹⁸ The reason given in the report for this omission is that Malampuzha block is a 'new' one and hence the required data is not available. However, Malampuzha block was formed in 1990 and the unavailability of data is not a credible claim!

The problem of pollution due to solid wastes in Plachimada came to international attention through the British Broadcasting Corporation (BBC) report. On 25 July 2003, the BBC reported the presence of heavy metals, lead and cadmium, in quantities higher than the approved limit in the sludge supplied by the Company, which was at the time claiming the

15 After analysing the CGWB's report, Keraleeyam, a Malayalam magazine pointed to the presence of high TDS, hardness, EC and high chloride content in the wells situated within hundred meter circumference from the Company. This element should have been an important one to decide the connection between the Company and the groundwater pollution in Plachimada. But CGWB has neglected this fact.

16 Letter dated 13-05-2003 by Medical Officer, Primary Health Centre, Perumatty to President, Grama Panchayat, Perumatty.

17 Both the studies were conducted in almost same period.

18 See P.N. Venugopal, Coca Cola Moving out of Plachimada?, INDIA TOGETHER, 27 January 2006, available at <http://www.indiatogether.org/2006/jan/env-cokesaga.htm#continue>.

sludge was a fertiliser.¹⁹ The BBC report has also alleged that the Company had clandestinely dumped the sludge in the nearby river-bed. The BBC study shows that sludge supplied by the Company is dangerous to the health and it had no value as manure.²⁰ It is most likely that the repeated application of the sludge containing these toxic metals will undoubtedly lead to the contamination of surface and groundwater resources in the vicinity. The heavy dumping of the sludge in the agricultural fields had been reported by Jananeethi, a non-governmental Organisation in Kerala, in 2002.²¹ The report's credibility was raised by the BBC report. This shows that the Company has been doing this illegal activity for a long time. Hence, the chances of water contamination are very high.

A study in this respect conducted by the Kerala State Pollution Control Board (KPCB) concludes that: 'the concentration of cadmium and other metals were found to be below the limit prescribed under the schedule 2 of the Hazardous Waste (Management and Handling) Rules, 1989 as amended in 2003 and hence the solid wastes generated in the Company will not come under the said rules'. But it is also clearly stated in the report that the presence of cadmium in the common Panchayat well is *double* the permissible limit and touches the permissible upper limit in another well. The KPCB's comment about this is a dumbfounding one: '...in the common Panchayat well could a small quantity of cadmium be detected'.²² Later the KPCB sent a letter to the President of the Grama Panchayat in Perumatty informing the Panchayat that the water in the Panchayat well should not be used for drinking purposes.²³ The presence of dangerously high quantity of heavy metals in Panchayat well is a serious public health issue. In an economically backward area like Plachimada, the majority of the population is likely to depend upon the common Panchayat well. It is very unfortunate that the KPCB had neglected this issue in its report.

Another study conducted by the Central Pollution Control Board (CPCB) two months after the KPCB study reveals that the sludge from Effluent Treatment Plant (ETP) and the sludge supplied by the Company to farmers for use as fertiliser contains heavy metals like lead and cadmium in more than permissible limits. The CPCB's report warrants the sludge to be treated as per the Hazardous Waste (Management and Handling Rules) 1989, as amended in 2003. Consequently, the KPCB directed the Company to close the factory until it complies with the provisions of the Hazardous Waste (Management and Handling Rules), 1989 as amended in 2003.

The order issued by the KPCB is not a final solution for the Plachimada people and the environment. The closure order stands alive until the Company complies with the Rule. Apart from the conditional closure order, no attempt has been taken so far to measure the impact of the solid waste pollution on the people and the environment and to remedy it. It is unfortunate that the facts of the pollution have not come up as a matter to be decided in the Court either. The pollution problem should have been the background against which the Plachimada case

19 The transcribed version of the BBC report is on file with the author.

20 See also Kerala State Pollution Control Board, A Study Report on the Presence of Heavy Metals in Sludge Generated in the Factory of M/s Hindustan Coca Cola Beverages Pvt. Ltd., Palakkad (Thiruvananthapuram: Kerala State Pollution Control Board, September 2003).

21 Jananeethi, Report on the Amplitude of Environmental and Human Rights Ramifications by the HCCBPL at Plachimada (Thrissur: Jananeethi, July 2002) and Yuvajanvedi, Report on the Environmental and Social Problems Raised due to Coca Cola and Pepsi in Palakkad District, (Thiruvananthapuram: Yuvajanvedi, November 2002).

22 See Kerala State Pollution Control Board, note 20 above.

23 Letter PCB/PLKD/W-217/2001 dated 31-10-2003.

was presented in the Court. Now the 'fate' of the Plachimada people depends upon the Supreme Court decision.

The unsatisfactory, ineffective and biased approach and responses of the government authorities raise several important legal questions. The pollution control laws are meant for maintaining and protecting the quality of the environment. The laws provide the power and other resources to the authorities constituted for this purpose. More specifically, the prevention, control and abatement of water pollution are an important responsibility under the existing law. This being the legal position, why did the investigations and the reports of the government authorities conclude that the Company is not responsible for the pollution and decline of groundwater in Plachimada? Why has the pollution in Plachimada not been investigated and remedied by the agencies of the government constituted for this purpose? Unfortunately, the Kerala High Court has not discussed any of these points in the Plachimada case.

The only authority that exercised its powers in favour of the Plachimada people is the Perumatty Grama Panchayat. But the Court has disapproved its action. In this context, the powers of the Panchayat in the Plachimada issue and the necessity to respect and implement the decentralisation principle based upon which the Panchayat possess the powers are discussed in the next section.

2.3 The Role of the Panchayat

The decentralisation policy, as it stands now, has been introduced as a result of the 73rd and 74th constitutional amendment in 1992. It envisages the constitution of the Panchayat and devolution of power by the state to enable the Panchayat to act as a micro level unit of local self-governance. Consequently, the Kerala government enacted the Kerala Panchayat Raj Act in 1994 (hereafter the PR Act). The Panchayat derives its power from Article 243 read with 11th Schedule of the Constitution of India and the Panchayat Raj Act, 1994. The legal framework casts duty on the Panchayat to manage and regulate the minor irrigation, water management and the water development. These powers are granted for the welfare of the residents of the Panchayat.

The power of the Panchayat over the water sources in its jurisdiction is well recognised in the Act. The subjects 'minor irrigation, water management and water shed development' and 'drinking water' has been included in the Schedule of the powers and functions of the Panchayat.²⁴ The Act provides that all water resources, except the one passing through more than one Panchayat, shall consider as 'transferred to and absolutely vests' in the Panchayat.²⁵ The Act requires the factories and industries to obtain license from the Panchayat.²⁶ Further, the PR Act empowers the Panchayat to abate the nuisance created by any factory or industries in its jurisdiction.²⁷ A combined reading of all these provisions makes it clear that the Panchayat is powerful enough to maintain the water resources and to take necessary measures to abate the pollution problems in its jurisdiction. These powers are granted to the Panchayat for the protection of the public health and welfare. Therefore, the Panchayat has the power to take necessary actions to protect the right of the people to clean and safe drinking water.

24 P.M.Bakshi, *The Constitution of India* (Delhi: Universal Law Publishing Co., 2006) Article 243G, Eleventh Schedule, Entry 3 & 11

25 The Kerala Panchayat Raj Act, 1994, Section 218.

26 *Id.* Section 233A.

27 *Id.* Section 233.

The Perumatty Grama Panchayat has exercised the above mentioned powers against the Company in Plachimada and refused to renew the license granted to the Company. The action taken by the Panchayat has been questioned by the Company in the Kerala High Court. The single bench of the Kerala High Court had approved the powers of the Panchayat. But the division bench of the Kerala High Court has not discussed the circumstances in which the Panchayat had taken the questioned action. Moreover, the object of the decentralisation principle has been completely neglected by the division bench of Kerala High Court.²⁸

The division bench of the Kerala High Court in the Plachimada case has neglected the ongoing legal transformation to empower the people on the basis of decentralisation principle. The High Court rejected the arguments based on the Panchayat's power and considered the private property rights as sacrosanct. Instead of giving decentralization a shot in the arm the High Court (the division bench) reverted to old principles and concepts in the legal system. The property rights of private companies have been given due respect by placing the right to clean drinking water and the right to livelihood of the public in peril. The way in which the Kerala High Court has approached the Plachimada issue is discussed in the next part.

3. Plachimada in the Kerala High Court

The Plachimada issue came before the Kerala High Court twice. But, the Kerala High Court decisions failed to take into account the major issues collectively. The Kerala High Court has neglected the important problems of pollution and violation of the right to drinking water and the right to livelihood of the people. These issues should have been addressed to provide the legal remedy to the Plachimada victims. This part of the case study concentrates on the case law discussion, which shows how the Plachimada issue had been presented in the Court and how the Kerala High Court had approached the case.

3.1 Background of the Case

The legal battle began when Perumatty Grama Panchayat (hereafter the Panchayat) decided not to renew the license of the factory by its resolution on 7 April 2003. In the light of the resolution, the secretary of the Panchayat issued an order dated 15 May 2003 cancelling the license granted to the Company. Excessive exploitation of the groundwater by the Company, consequential environmental problems and the drinking water scarcity were the reasons for the action taken by the Panchayat. The Company filed an appeal before the government against the decision of the Panchayat. The government, on appeal, ordered the Panchayat to constitute a team of experts from the departments of Ground Water and Public Health and the State Pollution Control Board to conduct a detailed investigation into the allegation and to take a decision based on the investigation report. The Panchayat filed a writ petition against the order of the government on the ground that the protection and preservation of the water resources is the mandatory duty of the Panchayat and the government has no authority to

28 The object of the decentralisation principle is to empower the people. The vision of the principle is the people's participation in all levels and the consequent efficiency and accountability in governance. Therefore the devolution of power shall not, in any way, end up in empowering Panchayat, because Panchayat is also a part of the state. The transfer of power from one organ of the state to another does not make much difference and obviously the object of the decentralisation principle is not to make the state more and more powerful. The decentralisation principle supports respect for people's needs and their power instead of the traditional approach of the 'grand fathering' of the state. This underlying philosophy should be respected and followed in any question of allocation of natural resources like water.

interfere with it. Hence the core question came before the High Court was with regard to the power of the Panchayat to protect and preserve the water resources in its jurisdiction. The pollution and its impact were not produced and discussed in the Court.

3.2 Principles in the Case

The power of the Panchayat to control the water resources (groundwater) in its jurisdiction was questioned before the Court. More specifically, the question is, whether the Panchayat has the power to control the use of groundwater existing in private property. As a matter of theoretical support, the Court discussed two principles, public trust doctrine and the common law rule of absolute proprietorship. In the first instance, the single bench of the Kerala High Court relied upon the public trust doctrine and decided in favour of the power of the Panchayat to control the use of the groundwater by the Company. The single bench upheld the action taken by the Panchayat for protecting the fundamental rights of the people. But the division bench in appeal decided in favour of the Company's right to extract groundwater from its property. The division bench denied the power of the Panchayat to control the right of the Company, as a property owner, to extract the groundwater from its property. A brief discussion of these principles is carried out here to avoid the explanation of the doctrine in the case law discussion.

3.2.1 PUBLIC TRUST DOCTRINE

The basis of the doctrine emanates from the property relationship. By considering natural resources as a property, the doctrine describes the right of the State and the individuals over it. The preliminary object of the doctrine was to impose a restriction upon the power of the government to transfer certain common properties to private hands.²⁹ It can be assumed that the doctrine was rooted in ancient values and inherited from a line of principled economic reasoning. The origin of the concept was to provide public access to the waterways for commercial benefit, and their preservation was viewed as a factor to facilitate trade and establish communication lines among the states.³⁰ In result, the doctrine acted as a restriction upon the state in the dissipation of the common property. It was an effort to recognise and respect the people's common law right to access waterways (usufructuary right). Gradually, the scope of the doctrine expanded from 'access to all' to the 'preservation of all natural resources'.³¹

The public trust doctrine denotes the state's relationship with certain 'common property' and its citizens. The doctrine, as it stands now, relates to the nature of title, protection and use of the essential natural and cultural resources. The doctrine put a control over the government's power to transfer the natural resources to private hands. This theory is based on the notion of trusteeship. In this doctrine the state's title has not been interpreted as one of ownership but as a trustee. This means the state is duty bound to protect and use the natural resources by respecting the natural right of the individuals. Thus the principle can be defined as follows:

29 *Illinois Central Railroad Company v Illinois*, 146 U.S. 387, 452 (1892).

30 George Smith and Michael Sweeny, 'Public Trust Doctrine and Natural Law: Emanations within a Penumbra', 33 *Boston College Environmental Affairs Law Review* 307-344 (2006).

31 For detailed discussion on origin and development of public trust doctrine see Joseph L. Sax, 'The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention', 68 *Michigan Law Review* 471 (1970) and Carole M. Rose, 'Romans, Roads, and Romantic Creators: Traditions of Public Property in the Information Age' 66 *Law and Contemporary Problems* 89 (2003); Cynthia L. Koehler, 'Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy', 22 *Ecology Law Quarterly* 541-589 (1995).

‘the state which holds the natural waters as a trustee, is duty bound to distribute or utilise the waters in such a way does not violate the natural right to water of any individual or group and safe guards the interest of public and of ecology’.³²

The public trust doctrine can be a basis of the power of the state to control the use of groundwater by the private individuals. It can also be a basis of the duty of the state to take measures for the protection and preservation of the natural resources for the present and future generations. The legal regulation of the use of the natural resources is necessary in the present context of environment that is deteriorating in quality and quantity. Hence, a discussion on whether the legal regulation of the use of the natural resources is valid or not, is irrelevant. What is relevant is the extent of the legal regulation, that is, the ways and means to ensure the sustainable use of the groundwater.

The single bench of the Kerala High Court in the Plachimada case has upheld this doctrine and held that the groundwater does not belong to any person. No one can claim the ownership over the groundwater and extract as much as s/he can merely because s/he is the owner of the land. It was also held that the state is duty bound to protect and preserve the groundwater for and on behalf of the general public. The decision of the single bench has been reversed by the division bench by relying upon the common law rule of absolute proprietorship, which is discussed in the next section.

3.2.2 COMMON LAW JURISPRUDENCE ON GROUND WATER

One of the peculiar facts in the history of water law is the separate development of the doctrines governing the surface water sources-such as lakes and rivers- and that governing the groundwater. While land ownership is critical to both surface water and groundwater, the riparian rights in the case of surface water are usually subject to the doctrine of reasonable use whereas groundwater has always been governed by the freewheeling rule of capture. Common law considers groundwater as part of the soil in which it exists. It is founded on the idea that a landowner should have dominion over the percolating groundwater that underlies his/her land in the same way that s/he has dominion over the other elements in his/her subsoil. Therefore, the common law rule permitted the landowner to extract any extent of groundwater, even though it is dangerous to his/her neighbours. The common law dismisses the problems caused by one person’s extraction of the groundwater with the curt observation that such a result is ‘*damnum absque injuria*’.³³

The historical reason for such an evolution of the rule is the lack of knowledge about groundwater hydrology.³⁴ When the mechanisms for tapping groundwater were not

32 Chhatrapati Singh, Water Rights and Principles of Water Resource Management 76 (Bombay: N.M.Tripathi Pvt. Ltd., 1991).

33 The meaning of the maxim ‘*damnum absque injuria*’ is damage without injury. The implication of the maxim is that the damage without any legal injury is not actionable. In the context of groundwater, even though the over extraction by one person cause damage to others, it does not amount to a legal injury and therefore it is not actionable.

34 *Roath v Driscoll*, 20 Conn. 533, 540 (1850) that, ‘Each owner has an equal and complete right to the use of his land, and to the water, which is in it. Water combined with the earth, or passing through it, by percolation or by infiltration, or chemical attraction, has no distinctive character of ownership from the earth itself; not more than the metallic oxides of which the earth is composed. Water, whether moving or motionless in the earth, is not, in the eye of law, distinct from the earth. The laws of its existence and progress, while there, are not uniform, and cannot be known or regulated. It rises to great heights, and moves collaterally, by influences beyond our apprehension. These influences are secret, changeable and

advanced, the chance of extraction of too much groundwater did not exist and as such was unlikely to cause any serious social problems which required mediation through the law. These reasons have now become obsolete. The science of hydrology is well-developed and now the processes involved in the recharge and discharge of groundwater and the quantity of water available in a region are matters within the realm of human knowledge. The existence and characteristics of groundwater is no longer a mystery. The availability of the powerful mechanical devices for drawing groundwater has also resulted in tilting the balance. The quality and quantity of groundwater have deteriorated due to the indiscriminate exploitation. This situation supports the need for mediation through law to regulate the use of groundwater.

The division bench of the Kerala High Court has not considered the reasons for the evolution of the proprietorship rule under the common law. The Court had relied upon the age-old and irrelevant principles and put the fundamental right to drinking water and the right to livelihood at peril. The Court has not considered the adverse impacts upon the environment because of its decision. The irrationality of the decision of the division bench is discussed in the next part of the paper.

3.3 Case Law Analysis

The Plachimada Coca Cola case came before the High Court of Kerala questioning the authority of the Panchayat to order the closure of the factory on the ground that the Company's activities (over exploitation of groundwater and pollution due to the effluents) have resulted in an acute shortage of drinking water and in other environmental problems. Hence, the major question addressed by the Court was, whether the Grama Panchayat has the power to regulate the right of a private individual or a company to extract the groundwater from her or its land or not. The issue knocked the door of the Kerala High Court twice. The writ petition at first instance was decided by the single bench of the Kerala High Court and the appeal was decided by the division bench.

3.3.1 SINGLE BENCH DECISION

The question considered by the single bench of the Kerala High Court was whether the decision of the Panchayat to cancel the license of the industrial unit and order its closure on the ground of excessive extraction of groundwater was legal and whether the intervention of the government in its appellate jurisdiction is sustainable.³⁵ The single bench mentioned the arguments raised by the Panchayat before the government, regarding the allegation of pollution caused by the industrial wastes generated by the company and the impurity of the products of the company. But the Court, while framing issues, had rejected these allegations. The Court reasoned its approach on the ground that: 'the panchayat is not competent to go into the quality of the beverages produced. It is for other appropriate authorities to look into such allegations. Regarding the pollution caused by industrial effluents, the panchayat can look into and take appropriate action in consultation with expert bodies under section 233 A of the Act (Kerala Panchayat Raj Act)'.³⁶

uncontrollable, we cannot subject them to the regulations of law, or build upon them a system of rules, as has been done with streams upon the surface.'

35 *Perumatty Grama Panchayat v State of Kerala*, High Court of Kerala, India, W.P. (C) No. 34292 of 2003, Judgement dated 16 December 2003, Paragraph 10.

36 *Id.* Paragraph 8.

In this context, the Panchayat and the Company had presented their parts in the Court. It has been argued on behalf of the Panchayat that the Panchayat is authorised to preserve water resources in its jurisdiction as per the Kerala Panchayat Raj Act. Therefore the closure order issued by the Panchayat was legitimately in the interest of the general public. Further, it was argued that the government could not dictate to a licensing authority as how it should work. On the whole, the Panchayat argued mainly on the basis of the discretionary and exclusive power of the Panchayat under the Constitution of India and the Kerala Panchayat Raj Act.

The Company presented its counter arguments on the basis of two points. First, it was argued that the government is the appellate authority under the Kerala Panchayat Raj Act and therefore the government is empowered to cancel the direction of the Panchayat. It is not proper for the Panchayat to challenge it. The company also justified the government's decision by arguing that the order against the company was a non-speaking order. The order was not supported by any authoritative reports or investigations. Secondly, it was argued that there was no statutory prohibition on digging of bore-wells at the time when the Company started production. Therefore, legally, there was no restriction upon the company to extract groundwater from its land.

In the light of the arguments raised by both the parties, the Court had invalidated the closure order issued by the Panchayat. It was held that the Panchayat was not authorised to issue a closure order on the basis of finding excessive extraction of groundwater by the Company. It was further held that, at best, the Panchayat could ask the company to stop the extraction from its jurisdiction and direct the company to find alternative sources.³⁷ Hence, the Court upheld the interference of the government to the extent in which it has disapproved the closure order issued by the Panchayat.

At the same time the Court answered the second question, that is, whether the Panchayat has the power to restrict or prohibit the extraction of groundwater, affirmatively. The Court has disapproved the argument made by the Company that in the absence of law the Company can extract any quantity of groundwater from its land by saying that these contentions are incompatible with the emerging environmental jurisprudence around Article 21 of the Indian Constitution.³⁸ It was held that:

Even in the absence of any law governing the groundwater, I am of the view that the Panchayat and the State are bound to protect the groundwater from excessive exploitation. In other words the groundwater under the land of second respondent (the company) does not belong to him. Normally, every landowner can draw a reasonable amount of water, which is necessary for his domestic use and also to meet the agricultural requirements. It is a customary right.³⁹

The single bench has strongly relied upon the public trust doctrine as highlighted by the Supreme Court in the *M.C. Mehta* case.⁴⁰ It was held that being the trustee of the great wealth of the natural resources, it is the duty of the state to protect the groundwater resources against overexploitation. The inaction of the state in this regard will tantamount to the infringement of the constitutionally guaranteed right to life under Article 21 of the Constitution of India. The Court also found basis in the Kerala Panchayat Raj Act. It was held

37 *Id.* Paragraph 12.

38 *Id.* Paragraph 13.

39 *Id.* Paragraph 13.

40 *M.C.Mehta v. Kamal Nath* (1997) 1 SCC 388.

that ‘the duty of the Panchayat can be correlated with its mandatory function No. 3 under the third schedule to Panchayat Raj Act namely, ‘maintenance of traditional drinking water resources’.⁴¹

Based upon the above findings, it was decided that the Company should be restrained from excessive extraction of groundwater from its land. It was further held that the Company, like any other landowner, should be permitted to extract the groundwater, which must be equivalent to the water normally used for irrigating the crops in 34 acres of plot. The Panchayat was given the power to monitor and inspect the groundwater consumption of the Company.

Summing up, the groundwater was held as national wealth and as a resource that belongs to the public. The Panchayat was held as the custodian of all natural water resources in its jurisdiction. The right of the individual to use the groundwater was made subject to the restrictions imposed by the State. In result, the decision is in tune with the present water law reforms through which the groundwater is being shifted from the individual to the governmental control.⁴² The single bench decision also recognises the fundamental right (the right to life and the right to livelihood) of the individuals likely to be infringed by the over extraction of groundwater by a person or a company. Unfortunately, this decision has been reversed by the division bench of the Kerala High Court in *Perumatty Grama Panchayat v. State of Kerala*.⁴³ The division bench decision is discussed in the next section.

3.3.2 DIVISION BENCH DECISION

Being aggrieved by the single bench decision, both the Panchayat and the Company had filed appeals. Apart from that there were other appeals in connection with the license issuing power of the Panchayat. Since all these matters are interlinked, the division bench considered and decided all the appeals together.⁴⁴

In appeal, the Panchayat presented that it had no issues with the Company and was merely anxious about the miseries of the people. It was presented on behalf of the Panchayat that, if there are proper solutions for the scarcity of water and other environmental problems, the Panchayat would never object to an industry capable of providing employment and other development. At the same time the Company argued that the single bench had been wrong in saying that the groundwater in a piece of land does not belong to the owner of the land but the public.

The division bench accepted the contentions of the Company and stated that in the absence of a specific statute prohibiting the extraction of groundwater, a person has the right to extract the groundwater from his/her land. Such an extraction could not be considered illegal. In this context, the division bench stated that ‘we do not find justification for upholding the finding of the learned judge (single bench) that the extraction of groundwater is illegal...we cannot endorse the finding that the company has no legal right to extract his wealth’.⁴⁵ The division

41 See *Perumatty Grama Panchayat*, note 35 above, Paragraph 13.

42 Philippe Cullet, ‘Water Law Reforms- An Analysis of Recent Developments’, 48 *Journal of Indian Law Institute* 206, 218 (2006).

43 W.A. No. 17600 of 2004 (Y) per M.Ramachandran and K.P.Balachandran JJ (hereafter the division bench).

44 W.A. No. 2125 of 2003, W.A. No. 215 of 2004, W.A. 1962 of 2003 and W.A. No. 12600 of 2004 decided on 7 April 2005.

45 *Id.* Paragraph 35.

bench also disapproved the reasoning of the single bench based on public trust doctrine and said that the abstract principles could not be the basis for the Court to deny basic rights.

The division bench also discredited the powers of the Panchayat under the Kerala Panchayat Raj Act that had been relied upon by the single bench. It was said that: 'even reference to the mandatory function referred to in the third schedule of the Panchayat Raj Act, namely 'maintenance of traditional drinking water resources' could not have been envisaged as preventing an owner of a well from extracting water there from as he wishes.⁴⁶ The division bench recognised groundwater as a 'private water resource' and accepted the proposition of law that the landowner has 'proprietary right' over it. Based upon this premise it was held that 'the Panchayat had no ownership over such private water resources and in effect denying the proprietary rights of the occupier and the proposition of law laid down by the learned judge (single bench) is too wide for unqualified acceptance'.⁴⁷

The division bench also considered and rejected the allegation of pollution and the quality problem of the cola. It was held that the Panchayat is ill equipped to examine the technical matters like that of pollution and the purity of the product of the Company. The division bench also rejected the Joint Parliamentary Committee (JPC) report on the purity of the cola on the ground that the JPC report had not referred to any samples collected from the factory in Plachimada.⁴⁸

The division bench accepted the decision of the government regarding the constitution of an expert committee to investigate the matter. As a result an expert committee was constituted to study and investigate the problems. The expert committee submitted an interim and a final report before the Court. By accepting the facts of water scarcity in the area, the expert committee concluded that the reason could be the declining rainfall in the last several years. The committee had recorded the opinion that the unregulated withdrawal of groundwater from the wells within the factory complex and also outside had aggravated the water shortage but the report concluded by stating that the annual groundwater requirement of the company, at the average rate of five lakh litres per day, could be allowed, if average rainfall was available. The report also suggested that the consumption should be reduced proportionately to the decrease in rain fall, for example, if rainfall was less by ten per cent the exploitation of water is to be reduced to four lakh litres per day. The expert committee report has been accepted as such by the division bench by saying that 'it appears to be authentic, based on data collected, mature and therefore acceptable'.⁴⁹

The landowner's right to extract the groundwater from his/her land was held as a basic right. It was held that the abstract principles like public trust doctrine could not be used to curtail the 'basic right' of the individuals. It was further held that in the absence of express statutes, the landowner is free to extract the groundwater from his/her land without any permission from the Panchayat or the State. The powers of the Panchayat under the Panchayat Raj Act over the groundwater resources were totally disapproved by the division bench. In effect, the division bench has upheld the proprietary right of the occupier of the land over the underlying

46 *Id* Paragraph 35.

47 *Id*. Paragraph 35.

48 *Id*. Paragraph 50.

49 *Id*. Paragraph 46; the expert committee report has been strongly criticised on the ground that it had relied upon the unrealistic and unscientific data. See K. Ravi Raman, 'Corporate Violence, Legal Nuances and Political Ecology: Cola War in Plachimada', *Economic and Political Weekly*, 18 June 2005.

groundwater. The division bench has not considered the reasons based on which the Panchayat had taken action against the Company.

The division bench failed to recognise the emerging jurisprudence based upon Article 21 of the Constitution of India. The Supreme Court of India, in a number of cases, have decided that the natural resources (groundwater in this case) are public trust. The state, as the trustee, is duty bound to protect and preserve such resources for the present and future generations. The overexploitation of such resources due to state action or inaction would amount to the violation of fundamental right(right to life under Article 21 of the Indian Constitution). The division bench has also failed to understand groundwater hydrology and the natural process through which the recharging of groundwater occurs. The groundwater in one person's land need not always be the water percolated through his land or the water that falls upon his land. Moreover the overexploitation of groundwater by one person would have adverse impacts upon even land far away. Therefore it is not proper to consider groundwater as a 'private property' that can be extracted by the landowner by treating it as his/her 'wealth'. It is unfortunate that the division bench did not appreciate these important facts.

The Plachimada case had been very badly produced before the High Court. The power of the Panchayat was the only matter discussed in the High Court. The serious problems of pollution had been completely neglected. The Division Bench of the Kerala High Court had not considered the legal framework of the pollution control laws and the underlying principle of the decentralisation policy. The property right of the Company has been given more importance than the basic human rights of the people of Plachimada and the environmental degradations caused by the Company.

Being aggrieved by the decision of the division bench of the Kerala High Court, the Panchayat has approached the Supreme Court. The case is now pending before the Supreme Court. Hopefully, the Supreme Court will consider all the facts and the legal framework in its true spirit and meaning.

4. The Future: An Analysis

The issue in Plachimada remains unsettled. The victims are waiting for the Supreme Court decision for remedial action. Therefore an analysis of the possible future solutions is made in this section. It points out the future of the Plachimada victims in the Supreme Court, that is, the possibility of getting appropriate remedy for the Plachimada victims. In this milieu, the arguments submitted on behalf of the Panchayat in the Supreme Court are analysed. This part also discusses the Kerala Ground Water Act as the major legal framework supposed to address the incidents like Plachimada in the future.

4.1 Plachimada in the Supreme Court: The Future

The problems in Plachimada still remain unsettled, though the Company had stopped its activities. The Plachimada people and the Panchayat need to wait for the Supreme Court verdict for remedies. In this juncture, this section analyses the important issues and the arguments submitted in the Supreme Court on behalf of the Panchayat.

The root cause of the Plachimada case is the Panchayat's refusal to renew the license of the Company on the grounds that the Company's overdrafting of the groundwater has caused an acute shortage of drinking water and has caused other environmental problems in the Panchayat. Therefore, the major arguments presented in the appeal before the Supreme Court

seeks to justify the Panchayat's action against the Company. The Panchayat justified its action on the grounds that there had been insufficient water for agricultural purposes and this shortage had resulted in popular protests in the Panchayat. The Panchayat argued that the action taken against the Company is its duty under the Kerala Panchayat Raj Act and in conformity with the underlying philosophy of the 73rd amendment to the Constitution.

It has been contended on behalf of the Panchayat that the power to control or restrict the groundwater extraction comes under the mandatory duty of the Panchayat. The same is the case of the licensing power of the Panchayat. The objects sought to be achieved through all these provisions or powers are the public safety and public welfare. By relying upon this legal background, it has been strongly contended in the Special Leave Petition (SLP) that the High Court was wrong in directing the Panchayat to renew the license. The High Court did not consider the powers of the Panchayat as envisaged under the Panchayat Raj Act and the Constitution of India. It was also submitted that the High Court has no power under article 226 to give such a direction to a licensing authority.

It has been submitted that the overdrafting of the groundwater by the Company has resulted in the drying up of the wells in the Plachimada area and also the contamination of water. These 'ground realities' have been ignored by the division bench of the High Court. The Panchayat has also submitted the arguments based upon the 'right to life' jurisprudence. It has been presented that there is an acute scarcity of drinking water in the area and therefore the action taken by the Panchayat is in the larger interest of public health and safety. Otherwise it would have been the violation of the right to life and the right to livelihood under article 21 of the Constitution.

The priority principle, the duty of the state to protect and preserve the environment and the right to livelihood are the arguments presented by the Panchayat to support its part. But these arguments have not been presented in a convincing manner with adequate emphasis. Hopefully the Supreme Court would consider these matters seriously. At the same time, the SLP placed more emphasis on the liability principles under the tort law. It is argued that the property rights vested in the Company does not extent beyond the four boundaries of its property. Any activity even though carried out in their property if adversely affecting the life as well as the proprietary right of the owners of the adjoining property, then it is the duty of the authority to interfere with such activity and to ensure the maintenance of rights and basic amenities to its citizens. The SLP continues the submission with the arguments that when the enjoyment of property by one person causes harm to the life and property rights of the adjoining owner, the liability under tort arise and the victim is entitled to compensation.

All the submissions above stated basically meant to establish the power of the Panchayat to manage and develop the water resources in its jurisdiction. In a way, the arguments presented in the Supreme Court are an attempt to establish the state's control over the natural resources. Instead of that, the human right of the public should have been asserted in the Court strongly. Such a human right approach would only result in the accountability of the state and would bring the norms of accessibility and equity in the existing groundwater legal regime.

The Plachimada case addresses two issues primarily, first the pollution problem; secondly the question of control over the private person/company's groundwater extraction from their property. The first issue would help to provide a specific remedy to the Plachimada crisis and the second one may clear the way to arrive at a viable pro-environment groundwater legal regime.

The pollution problem, from the very beginning, has not been produced before the Court properly. Though it was produced eventually, the Kerala High Court disposed it without any discussion by saying that the pollution is not a main question to be decided in the case brought before the Court. As a result the case lost its strength and an opportunity to provide relief to the Plachimada victims. In the present SLP too, the pollution problem has not been highlighted sufficiently. Instead of giving more emphasis to the compensation principle available under the tort law, it would have been better to rely upon the Polluter Pays Principle, an implied part of our environmental legislations as per the Supreme Court decision. The pollution is a strong argument given the fact that the pollution caused due to the solid wastes is already a proven fact. Therefore, the violation of the right to life and right to livelihood due to the pollution caused by the Company, and the duty of the state to protect and preserve the environment ought to be the core points of the arguments in the Supreme Court.

The second issue, addresses the broader question, who owns the groundwater? This case could be an 'opportunity' for the Court to discuss the validity of the traditional absolute proprietorship under the common law. The groundwater cannot be considered as a property confined to one's boundary walls of the property. The overextraction of the groundwater by a person from his property might results in undesired impact, even on individuals faraway. Moreover, the groundwater available in one's property would not necessarily be the water percolated through one's own land. Therefore, the groundwater resource ought not to be made private property. The absence of statutory provision, as justified by the Kerala High Court, is not a wise and reasonable justification to uphold the private property right over groundwater, especially in the time where acute scarcity of water exists and more sophisticated devices are available to extract the groundwater from deeper and deeper aquifers.

It would be a welcome decision if the Supreme Court denies the notion of groundwater as private property and gave more preferential attention to the violation of the human rights in Plachimada. It would also be proper for the Supreme Court to invoke the Polluter Pays Principle implied in the environmental law jurisprudence in India and give direction to ensure that the victims get sufficient compensation from the Coca Cola Company.

4.2 The Ground Water Act

The Ministry of Water Resources has circulated a Model Bill for Regulation of Ground Water to all States and Union Territories in 1970, which was revised in 1992 and 1996. The Model Bill was again reviewed in 2005. The state governments have so far responded to the model bill very slowly. The Kerala government enacted the Ground Water Act in 2002 by following the scheme of the model bill. The Act was in a dormant stage when the problems started in Plachimada. Although the Act was notified later, it was too late to apply the regulatory framework envisaged in the Act in the Plachimada case. Since this is the major legal framework supposed to manage similar issues in the future, the scheme of the Act is explained and analysed in this part of the paper.

4.2.1 INTRODUCING THE ACT

The Kerala government has enacted the Kerala Ground Water (Control and Regulation Act), 2002 for the conservation of groundwater and for the regulation and control of its extraction

and use.⁵⁰ The Act has explicitly considered the fact that groundwater is a critical resource of the state and the undesired environmental impacts of the indiscriminate extraction of the groundwater in the state. Hence the state government considered it as necessary to regulate the use of groundwater in the public interest.⁵¹ The schemes envisaged in the Act aims to control and regulate the extraction and use of groundwater by the private individuals and companies.

The Act provides for the constitution of the State Ground Water Authority as an institutional mechanism for implementing the Act.⁵² The authority is responsible and empowered to fulfil the objectives of the Act. This is the competitive body to advise the government to initiate policy actions to protect and preserve the groundwater resources in the state.

The Act is not applicable to all users of groundwater or to all geographical areas in the state. The application of the Act is limited by the quantitative and geographical restrictions. First, the term ‘user of groundwater’ includes only the persons using groundwater from a pumping well.⁵³ The definition of the term ‘pumping well, expressly excludes open wells fitted with pumps driven by an engine or motor of horse power up to 1.5 and bore wells and dug-cum bore wells fitted with pumps driven by an engine or motor of Horse Power up to 3.⁵⁴ The provisions make it clear that the small scale users, most likely the domestic users, are exempted from the application of the Act. Secondly, the Act is only applicable to the notified areas. The government, on the recommendation of the authority, is entrusted with the power to declare a particular area as a notified area, if it is necessary in the public interest to regulate the groundwater use in that area.⁵⁵ Here it is left to the discretion of the government and the role of the authority is only advisory.

The Act provides permit and registration system as a tool of regulating the groundwater use. The Act makes it mandatory for every person who desires to dig a well or to convert his or her existing well into a pumping well to seek permission from the authority.⁵⁶ The Act further gives some guidelines for the authority to consider before accepting or rejecting the permit applications. It includes the purpose of digging wells, the quality and quantity of groundwater of the area, the potential danger to the existing users, distance from the existing wells etc.⁵⁷ The rules made under the Act makes it mandatory that a groundwater scientist deputed by the Authority should visit the concerned place and after studying the geology and existing groundwater conditions of the area give an investigation report with recommendations. If necessary, geophysical survey may also be done in addition to the hydrogeological survey.⁵⁸ The Act also requires the existing users of the groundwater in a notified area to register their wells.⁵⁹ Here also the authority can accept or reject the

50 Hereafter referred as ‘the Act’.

51 See the preamble of the Act.

52 Here after referred as the ‘authority’.

53 Kerala Ground Water (Control and Regulation Act), 2002, Section 2 (h), available at <http://www.ielrc.org/content/e0208.pdf>.

54 *Id.* Section 2 (f).

55 *Id.* Section 6.

56 *Id.* Section 7 (1).

57 *Id.* Section 7 (7).

58 Kerala Ground Water (Control and Regulation) Rules, 2004 available at http://www.kerala.gov.in/dept_irrigation/gopno.17-2004.pdf.

59 *Id.* Section 8 (1).

application on reasonable grounds. The guidelines for accepting or rejecting the application for registration are more or less same as that required for the permit.⁶⁰

The Act provides special provision to protect public drinking water resources. It requires permission from the authority to dig wells within 30 meters from any public drinking water resources.⁶¹ The authority is authorised to grant permission, if the digging of a well is not likely to affect the public water resources, for the purposes of drinking or agriculture. Here the power of the authority to grant the permission is restricted by the express term ‘drinking purpose or for agriculture’. This means there is no question of other competing uses like commercial or industrial purposes within 30 meters from the public drinking water resources. In the absence of express provisions dealing with the priorities, this provision can be used as a guide for the authority to set priorities before granting a permit or certificate of registration or to put conditions in the permit or certificate of registration.

The authority is empowered to grant the permit or certificate of registration upon the conditions necessary for implementation of the Act.⁶² The authority is also empowered to change the conditions upon which the permit or certificate of registration is granted.⁶³ The authority can cancel the permit or certificate of registration on the grounds such as non-compliance with the conditions or the procurement of permit/certificate based on false facts. The authority can also use this power if the groundwater situation in the area demands a higher degree of restriction.⁶⁴

Though the Act provides the legal framework for the protection and development of the groundwater resources in the State, the provisions in the Act are not sufficient to achieve the objects of the Act. There are some drawbacks in the Act that need to be corrected to strengthen the statutory framework. The loopholes in the Act are explained in the next part, which highlights the necessary changes to be made in the Act to tackle the instances like Plachimada in the future.

4.2.2 CRITICAL ANALYSIS OF THE ACT

The Kerala government introduced the Kerala Ground Water (Control and Regulation Act) in the year 2002. The Kerala government took one year to bring the Act into force.⁶⁵ Further it took two more years to notify the Plachimada area. Therefore the statute is not applicable to the Plachimada case. Had the government implemented the Act in time, it would have been a subject of discussion in the Court. It is quite strange that when the people of Plachimada were fighting against the groundwater pollution and depletion, when various NGOs were publishing reports regarding the pollution and connected problems, the Act was ‘sleeping’ in the files. This shows the irresponsibility of the government. Being a legal framework supposed to control the groundwater use in future, it requires a responsible approach on the part of the government and some necessary amendments in the Act.

The Act can be considered as a ‘late comer’ with ‘some defects’. It is very impressive that the object of the Act is to promote the conservation of groundwater and regulate the use of groundwater. The Act recognises the existing indiscriminate exploitation of the groundwater

60 *Id.* Section 8 (5).

61 *Id.* Section 10.

62 *Id.* Sections 7(4) and 8(3).

63 *Id.* Section 11.

64 *Id.* Section 12.

65 Notification No. 6997/GW/1/03/WRD, S.R.O. No. 1155/2003 (Kerala Gazette, 19 November 2005).

in some areas of the state of Kerala and its negative environmental impact but the schemes envisaged in the Act are not enough to achieve the stated objectives. Hence the defects need to be rectified to equip the statute to avoid a Plachimada like situation in future.

First of all, the schemes of the Act are applicable only to the 'notified areas' under the Act. The power to notify a particular area is vested with the government on the recommendation of the authority constituted under the Act. The water-scarce areas should be declared as notified areas after scientific studies. At least the areas being commercially utilised by the water based industries should have been deemed to be notified areas. This type of 'operation of law' is necessary especially when the government and its institutions are passive. This will, at the least, help responsible individuals to approach the Court for the enforcement of their rights. Such a framework will act as a check and balance in achieving the object of the Act.

The Act is not well crafted to include the principle of prioritisation. The Act is silent on the priorities among the competing uses to be taken care of by the Authority before accepting or rejecting the application for the permit or certificate of registration. The priorities, as envisaged in the National Water Policy, 2002, should have been included in the Act explicitly.⁶⁶ The statute failed to differentiate between the competing uses of the groundwater. Different grade of regulation should have been envisaged under the statute for different uses like drinking water and other domestic purposes, agricultural purposes and commercial uses. Since the agricultural and commercial fields are the big users of the groundwater, the grade of the regulation and penalties for the violations ought to have been prescribed separately. But the statute has drawn up a single procedure, framework and penalties for all the uses. This is very a very relevant issue when the number water industries and the instances of pollution are increasing constantly. Moreover, the penalty as prescribed under the statute is 'nothing' for the companies like Coca Cola.⁶⁷ The cancellation of the permit or registration should have been made as a punishment in addition to the fine or imprisonment for the second offence.

The Polluter Pays Principle is considered to be an important part of the environmental jurisprudence. The Supreme Court of India has incorporated the Polluter Pays Principle as a part of the Indian legal system.⁶⁸ The principle requires the polluter to pay the compensation for the damages caused to the people and ecology. Unfortunately the Act prescribes only the traditional penalties of nominal fine and imprisonment. The legislatures spoiled a good opportunity to initiate a progressive legal change by omitting the Polluter Pays Principle.⁶⁹ Hence, it is necessary to include the Polluter Pays Principle expressly in the Act.

The conservation of any natural resource becomes effective only when there is public participation in all levels of planning and implementation. The Kerala Act did not consider the participatory form of management in the resource utilisation and management. The Act prescribes a centralised planning and management strategy. The role of the local communities and the local bodies has been completely neglected in the Act. It is most unlikely that the protection and preservation of the natural resources like groundwater become effective without the participation at the local level. It would be better to give more power and

66 See National Water Policy, 2002, Section 5, available at <http://www.ielrc.org/content/e0210.pdf>.

67 See The Ground Water, note 53 above, Section 21.

68 *Vellore Citizen's Welfare Forum v. Union of India* (1996) 5 SCC 647, Paragraphs 11-13.

69 A better approach can be seen in Andhra Pradesh Water, Land and Trees Act, 2002, available at <http://www.ielrc.org/content/e0202.pdf>.

responsibility to local communities and local bodies with central bodies and institutions as the facilitating and advisory bodies. Though the Act points out conservation as a major objective, it failed to prescribe any measures for the resource augmentation. It would have been better to give the augmentation responsibility to the local community and the local bodies. It would also be advisable to make rainwater harvesting structures a mandatory condition for the construction of buildings.

Absence of base data regarding the quantity and quality of the groundwater in the Plachimada aquifer has been the major defense of the Coca Cola Company. This necessitates the importance of a detailed study of the aquifers and a groundwater impact assessment before allowing any activities likely to cause adverse impacts on the groundwater. The results of the study should be made available to the public for scrutiny. It is also necessary to make it mandatory for the authority to monitor the groundwater condition periodically. This will help the authority to take proper actions in right time. It is also necessary to make the polluter liable, civil and criminally.

Hence, the Kerala Act is a 'weak' weapon. It can be considered as a beginning of the development of a new groundwater legal regime in India. But it needs to go very far from the present stage to achieve the required results of the sustainable use of groundwater.

5. Conclusion

The deterioration of groundwater in quality and quantity and the consequential public health problems and the destruction of the agricultural economy are the main problems identified in Plachimada. The activity of the Coca Cola company has caused or contributed a great deal to these problems. The people living in the vicinity of the Company have been suffering these problems for the last few years. The availability of good quality water for drinking purposes and agriculture has been affected dangerously due to the activity of the Company. Apart from that, the Company had also polluted the agricultural lands by depositing the hazardous wastes. All these points to the gross violation of the basic human rights, that is, the right to life, right to livelihood and the violation of the pollution control laws. The case study exposes the failure of the state, which is supposed to be the protector of the human rights, in its duty. An examination of all these issues exposes several lacunae in the legal regime such as the absence of a specific and comprehensive groundwater laws, an efficient implementation of the pollution control laws or any desire in the judiciary to appreciate the legal transformation of decentralisation of power.

Despite of the existence of the more competitive authority, that is, the Pollution Control Board, the Panchayat was the only authority that took some actions against the Company. The Panchayat has refused to renew the license of the company by exercising its power under the Kerala Panchayat Raj Act, 1994. Unfortunately, the power of the Panchayat has not been approved by the division bench of Kerala High Court. The division bench has not recognised the argument that the groundwater belongs to the public and the state (Panchayat) has the power to control the groundwater use in the public interest. The case is now pending before the Supreme Court of India. At this juncture, the remedy for the victims depends upon how the Supreme Court acknowledges the right of the public over the groundwater resources, the power of the state to control the groundwater use by the private parties and also the principles of modern environmental law jurisprudence such as the Polluter Pays Principle.

The case study reveals the necessity of a comprehensive groundwater statutory regime, which recognises the human rights implications of the uncontrolled use of groundwater and de-links

the groundwater right from the land ownership rights. The absence of such a legal regime has helped the Company to win the legal battle in the Kerala High Court. The division bench of the Kerala High Court acknowledged the right of the landowner over the groundwater by highlighting the absence of any statutes to the contrary. Therefore, the results of the case study suggest the immediate enactment of groundwater legislations by all the states in India. The legislation should give importance to the notion of human rights and the principles of environmental law such as the precautionary principle, Polluter Pays Principle, and conservation philosophy. Otherwise the use of groundwater will be ruled by the principles such as the common law rule of proprietorship, which have been proved to be insufficient and inconsistent in the contemporary context.

In Kerala, the absence of the statutory framework has been solved by the enactment of the Kerala Ground Water (Control and Regulation) Act, 2002, which came into application in 2003. An analysis of the Act reveals several drawbacks in the Act. The Act does not contain the provisions for the priority principle, Polluter pays Principle, mandatory preparation of groundwater data of the state, periodic monitoring of the groundwater situation etc. The lack of above mentioned principles in a statutory form is the main reason which has placed the remedy to the victims of Plachimada at peril. Therefore, the attention of the legislatures is needed urgently to incorporate the necessary additions to avoid similar crises in Kerala.

To sum up, the victims of Plachimada have to wait for the Supreme Court decision for legal remedies. At the same time the case study suggests the strengthening of the legal framework and the efficient implementation of the laws as the viable methods to regulate the groundwater use in the future and to avoid 'another Plachimada'.

X. CONCLUDING REMARKS AND DIRECTIONS FOR FUTURE RESEARCH

REMARKS BY PROFESSOR UPENDRA BAXI

Conclusionary Remarks

The International Environmental Law Research Centre (IELRC) has done well to organize this cross-disciplinary and activist dialogue concerning several dimensions of water rights as human rights.

While I thank Drs. Ramanathan and Cullet for their warm invitation, I remain disappointed that I am unable to participate in this deliberative event, owing to indisposition on my return to Delhi on the 5th instant. I hasten to add that the indisposition, at least this time round, has not been caused by any direct or indirect violation of my human rights to ‘safe’ access to water! In any event, the discursive loss remains entirely mine; I realize this in an abundant measure from a close study of the stimulating papers presented at this Workshop.

In the early nineties, I was privileged to ‘lead’ a water law and rights project with a distinguished team of colleagues at the Indian Law Institute. This yielded at least five valuable monographs. Unfortunately, this effort still remains insufficiently acknowledged in the Indian and Third World literature and has had entirely *nil* desired impact for curricular reform and specialized advocacy and research.

This inadvertence remains puzzling indeed as we had hoped to make a modest contribution towards an understanding of law, social policy, theory and histories of the distinctive, yet not entirely incomparable, Indian water law and jurisprudence.

May I exploit this moment to briefly remind concerned colleagues of the existence of this rather ‘ancient’ corpus, ‘ancient’ not chronologically but in terms of the internet-based forms of thought and solidarity that consign to oblivion with rapid ease ‘local’ scholarly labours, insufficiently interpellated in the Web-worlds. Fortunately, I may add, these publications remain not merely easily affordable but also, I believe, still continue to provide a critical resource for some contemporary engagements.

We conceived our common project via two overarching yet intertwined categories: water as a *resource* and *water-based* resources. If the former all too easily yielded to diverse, and contested, regimes of national water policy, the latter accentuated human rights to sustainable livelihood. Each category, in turn, stood resolutely addressed in terms of three key concerns: *access*, *equity*, and *participation*. As collective human resource, ‘water’ on these three axes led us to consider complex areas signified by practices of contentious politics of national policy and constitutional adjudication. *Water-based resources* led us more directly, again on these axes, to complex, even contradictory, concerns regarding community versus state ownership of ‘water’ and more crucially to an imagination of basic human rights and fundamental freedoms ingrained in the metaphor.

We anticipated somewhat, but these were not yet fully at hand, the emerging approaches to ‘water-based resources’ in terms of a universal human right, now in full efflorescence in its

so many different sites. These bear a fuller testimony to the power of the name and a tradition of thought. I refer obviously here to a forbidding Hegelian notion conceiving forms of ‘liquid’/‘fluid’ logics,’ contrasted with formal ‘logical’ thought-ways, fully apt for our discourse at this Workshop.

May I still suggest that this ILI framework, now obviously in need of further refinement, may still hold amidst the explicit United Nations recognition of ‘water’ as a human right? No doubt, it further stands now besieged at the same moment by the many-sided perfidies of multinational capital opposed, at the same moment and zodiac, by forms global civil society induced mutations of ‘water rights.’

In particular, I have here in view two momentous steps forward.

First, the General Comment No. 15 (2002) concerning the right to water (elucidating Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights.) And, second, in relation to the ongoing GATS discourse a ‘major U-turn’ by the European Commission now in some fecund forms, hopefully not eventually perishable insists (as late as February 2006) that the proposed regime of GATS ‘collective requests’ would not include ‘*water for human use.*’ Although the eventual status of this phrase–regime remains rather indeterminate, it at the very same moment marks with adequate clarity that ‘water’ MNCs within the ‘Unholy Trinity’ of ‘the IMF, the World Bank and the WTO’ combinatory global prowess remain *somewhat* accountable under the signature tunes of the dynamic universality of the future of human rights.

How may the General Comment 15 of the United Nations Committee on SECR assist some new approaches, in theory and movement remains an open but still a crucial question. The Comment, in Para 11, speaks to us thus:

‘The elements of the right to water must be *adequate for human dignity, life and health*, in accordance with articles 11, paragraph 1, and 12. The *adequacy* of water should not be interpreted *narrowly*, by mere reference to volumetric quantities and technologies. *Water should be treated as a social and cultural good, and not primarily as an economic good.* The manner of the *realization* of the right to water must also be *sustainable, ensuring that the right can be realized for present and future generations*’ (emphasis added.)

The italicised phrases above speak to us heavily concerning diplomacy of human rights, interspersed with se arcane performatives of high econometric theory concerning global ‘public gods.’ Further, this talk/discourse also registers some historically constituted limits of the activist, and diplomatic, registers of human rights enunciatory practices.

Even so, all this stands further concretized in Para 12 of the General Comment stressing the norms described in terms of some intelligible, though never wholly so, ‘physical availability,’ ‘economic accessibility,’ ‘non-discrimination,’ and ‘informational accessibility.’ Our rather NGO-induced romantic, and often hallucinatory, fascination with these developments always needs moderation by some instant reality checks!

As Radha D’Souza now reiterates in her contribution to this workshop, even these enormous normative ‘global civil society’ activism achievements must be subjected to strictest realist scrutiny. How may we, she asks, appraise these achievements on the landscape of ‘the wider processes of transformations in global capitalism, forms of colonialism, and the ways in which structuring and restructuring of social orders occurs?’ She acutely, and wisely, alerts

us to the fact that '[n]arrow empiricist approaches to social and natural phenomena, reductionist methodologies, and disciplinary closures cast a veil over social relations over water.'

I do not know how this message was received, if at all, in our workshop deliberation. Nor do I now how some of us may have proceeded to deconstruct Radha's important message in our deliberations. I say this because of the impression I gather from an overview of the papers that many indeed regard 'empiricist approaches,' 'reductionist methodologies,' and 'disciplinary closures,' as important ways of moving forward. At this distance from the event, I remain simply unable to configure how the distinguished agricultural economists, development, policy scientists, and human rights experts, among others, chafed at, as well as responded to, Radha's indictment.

The issue at stake, all the same moment, remains this: Does this very characterization run the same 'reductionist' risk and if so to what effect? The issue put another way is this: How may we address the newly-fangled human water rights as providing future registers, if not histories of struggles for human emancipation? How may these remarkable normative itineraries of the discipline of human rights produce some arrest warrants for the 'runaway globalization' practices and performances?

How indeed may this indictment speak, if at all, to the manifold, even when non-mutinous concerns articulated by the specific talk concerning the Dalit rights to water? I have here in view the two superb, though if I may say so analytically brief, papers by Rizvi and Soni. Many contributions [especially by Sangmeswarn, Nagraj, Gualtieri, Coleho, Panicker, Madhav and I think Vani, or did I imagine her contribution?] do indeed speak to us beyond the enclosures of mind entirely neglectful of local, colonial and postcolonial histories and geographies.

All this being fully said, Radha raises an important future task to be further addressed. The inquiry that she behind, in the concluding sentence of her paper, matters decisively now: Who may indeed *speak* on 'behalf of the dispossessed?' And in which ways 'our' presently constituted ways of speech reinforce dominant ways of silencing human rights insurrectionary talk in relation to struggles over water rights? How may be those dying of thirst, of contaminated water, from floods and outrages of huge irrigation projects, speak to 'us' when we construct the logics and languages of a human right to water? In sum, adapting here poet Coleridge, human right to water remains everywhere but without a 'drop to drink!'

One way, perhaps, is to address this issue entirely afresh in the water rights discourse, which presents an inaugural potential. By this I mean that unlike the 'solidified' past human rights enunciations, 'water-rights-in-the-making' offer us whole new vistas for 'liquid'/fluid imaginative and reflexive thinking and articulatory practices for the future of human rights.

By way of a still further explanatory word, allow me to say that our imagination of this 'new' human right must, as I think Radha after all suggests, remain profoundly insurrectionist. It is simply not *enough* in this oeuvre to powerfully critique the globalizing the postcolonial, important as this remains. What is needed then is an order of an epistemic break/breach in the sphere of human rights enunciation.

No longer may remain apt the fatigued, and even superannuatory languages of human rights; 'water rights' talk goes now much beyond and farther, in ways that recast habits of thought

and action concerning human rights. How may we then after all take the first step? The workshop deliberations, in my view, constitute fully both a challenge and opportunity.