# Chapter 3

## WATER CONSERVATION: LEGAL ISSUES AND CHALLENGES

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### Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.12. Introduction</td>
<td>91</td>
</tr>
<tr>
<td>3.13. Historical recollection</td>
<td>92</td>
</tr>
<tr>
<td>3.14. Water Scarcity: Ground Realities</td>
<td>95</td>
</tr>
<tr>
<td>3.15. Strategies, Policies and Plans so far</td>
<td>98</td>
</tr>
<tr>
<td>3.15.1.1. National Water Policy 1987</td>
<td>99</td>
</tr>
<tr>
<td>3.15.1.2. National Water Policy 2003</td>
<td>102</td>
</tr>
<tr>
<td>3.16. Water Right</td>
<td>104</td>
</tr>
<tr>
<td>3.16.1.1. Prescriptive Right</td>
<td>107</td>
</tr>
<tr>
<td>3.16.1.2. Rights of States in Water</td>
<td>109</td>
</tr>
<tr>
<td>3.16.1.3. Conflicts of water users: Inter State</td>
<td>110</td>
</tr>
<tr>
<td>3.16.1.4. Common Law and Water Rights</td>
<td>118</td>
</tr>
<tr>
<td>3.16.2. Rights of Riparian Owners against Pollution</td>
<td>127</td>
</tr>
<tr>
<td>3.16.3. Dams and water rights</td>
<td>130</td>
</tr>
<tr>
<td>3.16.3.1. Dams and their Impact</td>
<td>132</td>
</tr>
<tr>
<td>3.16.3.2. History of the Narmada</td>
<td>134</td>
</tr>
<tr>
<td>3.17. Water pollution: Dimensions</td>
<td>135</td>
</tr>
<tr>
<td>3.17.1. Municipal Statutes</td>
<td>144</td>
</tr>
<tr>
<td>3.17.2. Rights of Riparian Owners</td>
<td>145</td>
</tr>
<tr>
<td>3.18. Interlinking of Rivers: Evaluating the possible solution</td>
<td>145</td>
</tr>
<tr>
<td>3.19. International Law in water</td>
<td>151</td>
</tr>
<tr>
<td>3.19.1. The Helsinki Rules</td>
<td>152</td>
</tr>
<tr>
<td>Water Courses and International Lakes</td>
<td></td>
</tr>
<tr>
<td>3.20. Ground Water</td>
<td>156</td>
</tr>
<tr>
<td>3.20.1. Introduction to the problem of overexploitation</td>
<td>156</td>
</tr>
<tr>
<td>3.20.2. Development of legal doctrine for the exploitation of ground water</td>
<td>157</td>
</tr>
<tr>
<td>3.20.3. Policies so far</td>
<td>159</td>
</tr>
<tr>
<td>3.20.4. Judicial rethinking</td>
<td>161</td>
</tr>
<tr>
<td>3.21. Water: will privatization work?</td>
<td>165</td>
</tr>
<tr>
<td>3.22. Conclusion</td>
<td>170</td>
</tr>
<tr>
<td>3.22.1. Institutional reform</td>
<td>170</td>
</tr>
<tr>
<td>3.22.2. State and Civil Society</td>
<td>172</td>
</tr>
<tr>
<td>3.22.3. Rain Water Harvesting</td>
<td>173</td>
</tr>
<tr>
<td>3.22.4. Integrated Approach</td>
<td>174</td>
</tr>
</tbody>
</table>

WATER: Legal Issues and Concerns in India

### 3.1. INTRODUCTION
Few will dispute that after air, water is the most essential element to life. Life cannot be sustained without water, which is one of the attributes of the right to life. It is one of the few materials on the Earth that exists naturally as a solid, liquid or gas. Access to uncontaminated fresh water is one of the most pervasive environmental challenges facing the planet.\textsuperscript{310} Scientists estimate that there are over one billion cubic kilometers of water on this earth, which covers nearly three fourth of the earth's surface. Though this seems an inordinately huge amount, in actual fact, less than one percent is fresh and usable and is found in lakes, ponds, rivers and groundwater. Of the remaining, ninety seven percent is found in oceans and two percent is locked up in glaciers and ice caps.\textsuperscript{311} From a global viewpoint fresh water is abundant and the volume of fresh water renewed by the hydrological cycle between the oceans, the atmosphere, the sun and the land is more than enough to meet the needs of five to ten times existing world population.\textsuperscript{312}

All potable water is drawn from rivers, lakes or aquifers and the cost involved is only that of extraction since water itself is "free". Water sources are often outside urban areas, and water is pumped to urban areas and purified and distributed through a piping system. Water that was hitherto free of charge is priced in urban areas to pay for the infrastructure that has to be constructed and maintained and operated to collect, convey, treat and distribute water. In rural areas, the cost of water is due to financial investment in the canal network or from consumption of electric power for IP sets.

India is a vast country with varying geographical regions and climatic conditions. Some regions are rain-fed; some others are not. Certain States and regions are blessed with rivers and lakes; certain others are prone to drought or floods. Desertification makes some regions thirsty for water. In certain areas, people, especially women, plough their long and wary way to fetch water for daily use. These variables in the availability of water, places the law in a fluid situation. Equity in the distribution of water becomes thus a complex problem. The questions relating to the maintenance and preservation of the quality of water involve wider significance. The quality of water available for drinking is posing a serious threat to the existence of life. Degradation of water quality is a consequence of human activities, land use practices and economic development. Land use practices affect the quality of water in our streams, lakes, ground water and ultimately the marine environment. Experience has shown that it is within

\textsuperscript{310} David Hunter, International Environmental Law and Policy, University Case Book, Foundation Press, New York, p. 10. Nearly one third of the world’s population lacks access to proper sanitation facilities; more than one billion lack access to clean water. Lack of decent sanitation contributes to 900 million cases of diarrhea diseases every year. 200 million people are suffering from schistosomiasis or bilharzias and 900 million from hookworm. Epidemics such as cholera, typhoid and paratyphoid also thrive in areas with poor sanitation. The cost of this pollution in terms of human suffering, loss of productivity, health care, and foregone development are staggering. The World Bank, 1992 World Development Report 5 1992.

\textsuperscript{311} Over 70% of the earths surface is covered by water. The amount of fresh water is only 0.8% of the world water supply, 1.8% is frozen in polar caps and 97.4% is salt water in oceans.

\textsuperscript{312} India is endowed with vast water and land resources. Renewable water resources in the country are estimated at 4% of global availability. Estimates of early nineties indicate that the per capita availability of land freshwater in India are 0.2 ha and 2200 cubic meters against world average of 0.27 ha and 7400 cu.m respectively. Global Water Partnership, Integrated Water Resources Management in South Asia: A regional Perspective for GWP action, Aug, 1998. P. S Rao, Water resource Management in India, p. 40.
our ability to slow and reverse water quality degradation, to improve human health and ecosystem integrity by nations putting forward a concerted effort. To accomplish this, aggressive, positive and timely policies and actions are needed. The world has a moral obligation to ensure that future generations inherit a world with clean water and healthy environment.

3.2. HISTORICAL RECOLLECTION

The common belief during the Vedic period was that water is not lost in undergoing the various processes of hydrological cycle, namely evaporation, condensation, rainfall, stream-flow etc., but gets converted from one form to another. Water intake by plants, division of water into minute particles by the sun’s rays and wind, different types of clouds, their heights, their rainfall capacities etc., along with the prediction of rainfall quantity in advance by observation of natural phenomenon is illustrated in the Puranas, the Vrahat Samhita (550 A.D), the Meghmala (900 AD) and other literature. The reference of rain-gauges are available in Kautilya’s Arthashastra, and Panini’s Astadhyayi. The quantity of rainfall in various parts of India was also known to Kautilya. Various other phenomena of infiltration, interception, stream-flow, geomorphology, artesian wells, and erosive action of water were well understood. Groundwater development and quality consideration were getting sufficient attention as evidenced by the Vrahat Samhita (550 AD). Water management and conservation, well-organized water pricing system in 400 BC; construction methods and materials of dams, tanks etc. and bank protection, spillways and other considerations mentioned in the ancient books reflect the high stage of development of water resources and hydrology in ancient India. However, in a country where the first measurements of rainfall was made by Kautilya as early as 1200 AD, it is surprising that estimates of the total availability of water are quite recent.\(^{313}\)

It is a truism that water is the elixir of life. Therefore it is not surprising that the earliest civilisations generally appeared near river systems: the Indus-Sarasvati, the Euphrates-Tigris, the Nile, and the Yellow River. As humans transitioned from nomadic hunter-gatherers to settled farmers, it goes without saying that an assured source of water was critically important. Naturally, the great cities of antiquity also sprung up near rivers for, rivers are perfect for water-borne trade. Today, despite railways and roads, much cargo is ferried up and down rivers; and despite great water-works, we continue to be heavily dependent on rivers for life-giving water for agriculture and urban consumption.\(^{314}\)

\(^{313}\) The Observer of Business and Politics, April 23, 2000.
\(^{314}\) Rajeev Srinivasan; River Sutra; www.Rediff.com, visited 27/10/03
Riparian areas have become centers of civilisation for purely economic reasons too. For, the surplus generated by intensive agriculture can be used to sustain a culture where not everybody has to be a subsistence farmer. There is enough wealth to support warriors, artists, traders, scientists, writers, priests, architects, and so forth. This is famously true of the Nile delta where flooding left a precious alluvium of new topsoil every year.

Similarly, the Cauveri delta supported the cultural flowering of the Cholas, those immense temple towers at Srirangam and Chidambaram and Gangaikondacholapuram, the expeditions of Rajaraja Chola to the Indonesian archipelago, and those sublime Chola bronzes of Thanjavur, are directly attributable to, and financed by, the diligent Tamil farmer and artisan. And as late as the colonial era, the Cauveri delta (Tamil Nadu) and the Brahmaputra delta (Bengal) were among the four greatest centers of industrial production in the world.

Ancient Indians did recognise the importance of their rivers as literally the lifeblood of the nation. Hence the great honour and respect given to them in Hindu scriptures. See, for example, the sloka:

Gange cha! Yamune chiava! Godavari! Sarasvati! Namade! Sindhu! Kaveri! Jale asmin sannidhim kuru!

[In this water, I invoke the presence of holy waters from The rivers Ganga, Yamuna, Godavari, Sarasvati, Namada, Sindhu and Cauvery!]

The divinity attributed to the sacred rivers such as the Sarasvati, the Ganga, the Cauveri, and the Namada has perhaps helped us manage and preserve them. The Rg Veda speaks often about the mighty river Sarasvati, as broad as the ocean. In the story of Indra's slaying of the water-demon Vrtra, we see the damming of the river and its subsequent release. Pilgrims even today undertake the arduous trek to Gaumukh, the origin of the Ganga/Bhagirathi, even though the glacier that gives rise to the river has receded eighteen kilometers away from the original temple to Ganga built millennia ago at the then source, Gangotri.

This historical tradition is almost long forgotten by the people and policy makers alike and due to the advent of capitalist consumption pattern, we have consumed some of our resources more than their carrying capacity. The result is that the ‘water’, which was, once scared, worshiped, is today a matter of property rights and resultant conflict. Nevertheless what was once free to all is today priced and most importantly is a ‘good’, which is commercial, tradable and the price seems to go higher as days and years go by. What cannot also be undisputed is that ‘water’ today is a precious resource, though renewable; the quality of fresh potable drinking water is scarce. The reason for such a scarcity is also not a disputed matter anymore. All major cities and towns in India in the summer of 2003 faced acute shortage of drinking water and no city was an exception.

### 3.3. WATER SCARCITY: GROUND REALITIES

There are driving forces of change that could make water problems worse, unless actions are taken. Those forces include population and increasing consumption of food and industrial goods, irrigation that is water intensive, high withdrawal of ground water for industrial purposes, increase in waste streams etc.

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315 The Sarasvati, along whose banks the bulk of the settlements of the Indus-Sarasvati (Harappan) civilization can be found, dried up circa 2000 BCE, after an earthquake caused its tributaries to be captured by other rivers, the Sutlej by the Indus, and the Yamuna by the Ganga. The Indus-Sarasvati civilisation declined precipitously thereafter, and its next flowering was hundreds of years later, in the Gangetic Plain to the east. The river died, and so almost did the civilisation; this is a cautionary tale for us. Ibid

316 For more details, see Michel Danino, The Invasion That Never Was, Mother’s Institute of Research, Nilgiris, 2001. Also see [http://www.bharatvani.org/michel_danino/homepage.htm](http://www.bharatvani.org/michel_danino/homepage.htm).
The primary source of the planet’s supply of fresh water is in rivers, lakes and reservoirs. Rainfall pattern have important implications for the quality of water. Global annual rainfall has been estimated at about 500,000 cubic kilometers of which only 110,000 cubic kilometers falls in land, and of which only thirty-five percent stays in rivers or lakes or wetlands or flows into groundwater aquifers. The per capita availability of water in India has dropped from 5,000 cubic metres a year in 1947 to less than 2,000 cubic metres in 2002. It is expected to drop further to below 1,500 cubic metres by 2025. Six of India’s 20 river basins have already reached the water scarcity threshold of 1,000 cubic metres a year. In 15 States, the groundwater level has been falling at the rate of 5 to 7 feet every year. Twelve major rivers have been declared polluted and, according to hydrologists, there are no more fresh water sources in India. Accounting for 16 per cent of the world’s population, 2.45 per cent of the landmass, and 4 per cent of the water resources, India is facing a drinking water crisis.

Villages in India in the past were prosperous with tanks and ponds which supplied sufficient quantity of water for irrigation and domestic purposes. Lakes in different parts of the country played an important role. They maintained eco-balance and sustained the needs of the people of the region. Of late, it is found that these water bodies, which supported the life of the people living around, have been dying out of wanton interference by modern civilization. The lakes in towns and cities are almost dead as they are in mortal danger of eutrophication. The ponds and tanks in rural areas shrink or disappear with encroachment by people who seek for house and shelter. Certain rivers, once excellent for unhindered cruising along their long routes, have now become too shallow and are facing a serious threat because of plantations in the upper reaches, land slides in the hills, soil removal and erosion in the banks, siltation, industrial pollution and encroachment of population into the river. Separate agencies for saving the shrinking water bodies in general and dying rivers in particular are necessarily to be formed. These agencies should consist of conservationists, intellectuals and public men to oversee the protection and conservation measures.

The obsession with major and medium irrigation projects throughout the period right from 1951 prevented us from bestowing great care to the alternative methods of water management.

318 World Resources 160 [1992-93].
319 Some 200 million Indians do not have access to safe and clean water. An estimated 90% of the country’s water resources are polluted with untreated industrial and domestic waste, pesticides, and fertilizers (The Observer of Business and Politics, April 23 2000).
such as distribution of water from rivers, reduction of run-off losses and retention of ground water resources. Industrial and agricultural activities and population growth are increasing the demand for water, requiring new management techniques. Options include improved efficiency in use; greater re-use; allocation of water; and limiting pollution of supplies. For pollution the direct discharge of municipal and industrial waste into rivers and lakes has been reduced in many developed countries, but pollution from diffuse sources [non-point source pollution] has proved to be more difficult to control. Non-point pollution includes agricultural, industrial and urban run-off, which transports pesticides, nitrates, phosphates and other pollutants into the water supply. This source of pollution of freshwater can be divided into three main types: excess nutrients from sewage and soil erosion; pathogens from sewage; and heavy metals and synthetic organic compounds from industry, mining and agriculture.\textsuperscript{321} This unwise policy, not conducive to sustainable development, resulted in disastrous imbalance in hydrological cycle, exhaustion or salinisation of water in aquifers, pollution of ground water, erosion of top soil, loss of soil moisture and fertility, consequent desertification and increasing rates of floods and droughts.\textsuperscript{322} Needless to say that management of water resources is to be re-oriented only with the management of land resources and surface water but also with the maintenance, availability and quality of ground water.\textsuperscript{323}

The apparent abundance of water is deceptive and is often taken for granted.\textsuperscript{324} There is a tendency to abuse and overuse it. This has led to water scarcity everywhere, for which the broad reasons are as follows,

1. Increasing demand for water due to rapid increase in population.

2. Bad management: India receive the second highest amount of rainfall in the world, next to

\textsuperscript{321} http://www.teriin.org/energy/water.htm. \\
\textsuperscript{322} Ibid. Also see the same author, Managing India's Water resources [1990], pp 5-7. \\
\textsuperscript{323} Similarly, the Washington-based Worldwatch Institute had predicted that India would be among the countries worst hit by water scarcity, and that could prove to be a primary global concern in the new millennium. In a special millennial edition of its annual State of the World Report, Worldwatch warned that as India's population approaches the one billion mark, 'the country faces steep cutbacks in the supply of irrigation water'. The report blamed the state governments for being a catalyst in accelerating the depletion of the water resources by giving farmers cheap or free electricity `who use it to pump water out of underground aquifers faster than rain that recharges them'. World Watch Report 2001. \\
\textsuperscript{324} In 2025, about 84% of the population in industrial countries and 56% of developing country residents will live in urban areas. This represents a dramatic change from the present situation and will result in a relatively static level of rural population in many developing countries. But rural water management will have to support this population distribution and ensure that acceptable livelihood and environments are available. In developing countries the importance of women farmers is increasing as fewer men farm, and women achieve greater rights and recognition. Some observers estimate that worldwide, women farmers are responsible for as much as 50% of
Brazil, almost 1150 mm, annually, draining a total volume of 400 million hectare meters. Of this, only 100 million-hectare meters is retained in the soil. The rest is carried as run off into the oceans and seas.

3. Poor ground water resources due to deforestation and overgrazing which result in soil erosion and the inability of the soil to permit water infiltration.

4. Poor storage facilities.

5. Over-exploitation of ground water in water-scarce areas often resulting in the intrusion of saline water in coastal areas.

6. Dumping of various types of pollutants into water bodies, reducing the usability of the available water.

7. Cultivation of hybrid varieties of paddy, wheat, cotton, sugarcane and tobacco, and other crops, which are not suitable to the soil conditions of that area, which consume more water.

8. Evaporational loss of water stored in large reservoirs and loss by seepage in long canal system.

9. Siltation of bodies of water due to denudation of the vegetation cover in the hills and catchment areas.

Added to this are the inter-state water disputes amidst riparian states on various issues like quantum of their share in the water flowing in inter-state rivers, construction or heightening of dams, pollution of water and rehabilitation of the evictees from the submerged areas.

It is time that effective regulatory mechanism is established by which protection of our water resources can take place. There is also a need for looking at the water laws in the other jurisdictions and rules and regulations mandating protection.

3.4. **STRATEGIES, POLICIES AND PLANS SO FAR**

The resolution of competing uses over scarce fresh water supplies promises to be one of the major challenges for the next century. Water, like other natural resources, not only has a commercial value, but also an environmental and social value not readily determined by or reflected in market prices. Access to water is a basic necessity for all people, both for direct consumption and as an integral part of agricultural production. As water becomes more scarce and as the price of water increases, the poor may find their access to water more limited. Environmental food production. A Vision of water for food and rural development, 17 March 2000 The Hague. World Commission on Water for 21st century. CEERA library.

More than 90% of the world’s total supply of fresh water is groundwater. However this source is getting depleted at an alarming rate due to increasing demand, or is getting polluted due to industrialization, use of pesticide and fertilizers etc, and due to dumping of hazardous chemicals by households/industries.
uses of water [for example, as habitat for fish or as recreation] may also suffer.\textsuperscript{326} The government's response to the problem has been to withdraw from its traditional role as a provider of the social good, including water, to that of a facilitator, that is, of marketing water. This primarily stems from giving water a demand-orientation.

Independent India treated water as a basic right and gave its supply high priority. While tracing the government's role in providing water to its people, the Ahmedabad-based water and gender expert Dr. Sara Ahmed (in the article entitled "Engendered Water Policy: The State NGOs and Gendered Outcomes in Rural Gujarat\textsuperscript{327}") says that the 1944 Bhore Committee, which looked into the country's health system, first drew attention to the problem of safe drinking water. In 1954, the Health Ministry announced the National Water Supply and Sanitation Programme as part of the health schemes under the Five-Year Plans, and made specific provisions to assist State governments in its implementation, water being a State subject.

By the mid-1960s, when it was realised that the schemes were implemented only in villages that were accessible easily, States were asked to identify villages in remote areas that needed assistance. In 1972-73, the Centre introduced the Accelerated Rural Water Supply Programme (ARWSP) with 100 per cent grant to remote villages. This programme was temporarily withdrawn in 1974-75 and reintroduced in 1977-78 when it was found that it had not reached many of the villages that had been identified.

Periodic droughts during the 1980s and a growing recognition of the need for water conservation, particularly of groundwater, which is a major source of drinking water, led to the formulation of the \textit{3.4.1. National Water Policy in 1987}.\textsuperscript{328} The National Water Resources Council (NWRC), under the Chairmanship of the Prime Minister, was established. It has a specific role on the National Water Policy, reviews development plans, and advises on implementation.

The Policy states:

\textit{Water is a prime natural resource, a basic human need and a precious national asset. Planning and development of water resources need to be governed by national perspectives.}\textsuperscript{329}

The Policy aimed at planning, developing, and conserving the scarce and precious water resources on an integrated and environmentally sound basis recognizing the needs of the State Governments. The policy facilitates strategies on ground water development, water allocation priorities, drinking water, irrigation, water quality, water zoning, conservation of water, and flood control and management. The State Governments in India were asked to make their water policies within the overall framework of the National Water Policy.

The Water policy stresses that "drinking water needs of humans and animals should be the first charge of any available water" and calls for the integrated and coordinated development of surface and groundwater. The policy


\textsuperscript{327} Reading material, Training programme for PCB Officers 2003, MoEF, New Delhi.

\textsuperscript{328} India's first National Water Policy was adopted in September, 1987.

(1987) gives primacy to drinking water for both humans and animals over its other uses. The policy calls for controls on the exploitation of ground water through regulation and an integrated and coordinated development of surface and ground water. Further, water is a prime natural resource, a basic human need and a precious national asset. Planning and development of water resources need to be governed by national perspectives. The Central Government identified strategies for meeting drinking water needs and micro-watershed management and conducted pilot projects in different regions in the country. Even so, India is facing a fresh water crisis. The current laws in India assign property rights of surface (natural) water resources to the State, while the right to extraction of groundwater rests with those individuals who own the land above the aquifer. The unregulated and extensive exploitation of groundwater between 1951 and the mid-1990s, mainly for irrigation, and the growing industrial demand impacted the quantity and quality of water available for drinking purposes.

Recognising the inadequacy of the efforts in recharging water aquifers, the Rajiv Gandhi National Drinking Water Mission (RGNDWM) was launched in 1986 with a number of tasks, including data collection and the assessment of water availability, the estimation of recharging potential for groundwater regimes, designing rainwater harvesting structures and enlisting community participation for decentralized water management. The Mission, according to Dr. Sara Ahmed, faced several constraints, primarily because State policies were not consistent with the National Water Policy. Moreover, a target-oriented approach led to haphazard implementation, with little understanding of the ground realities. Around this time water began to be seen as a commodity that could be priced.

The guidelines underlying the Mission, however, were re-emphasized in the Eighth Plan (1992-97): "Safe drinking water supply and basic sanitation are vital human needs for health and efficiency (given the prevalence of) death and disease, particularly of children... and the drudgery of women are directly attributable to the lack of these essentials."

While the Plan drew attention to the management of water as a commodity, based on the principle of effective demand, it also outlined an enhanced role for local bodies. The 73rd and 74th Constitutional Amendments (1993), which revamped Panchayati Raj institutions, gave these local bodies the added responsibility of drinking water and sanitation. Panchayati Raj institutions were made responsible for the choice of technology, the recovery of operating costs (through water taxes or user fees) and the maintenance of rural water supply and sanitation schemes through elected water committees. However, many a State Government still controls the grants to the Panchayati Raj institutions, and has access to funding from bilateral and multilateral agencies as well as the Centre.

The Ninth Plan (1997-2002) re-articulated the shift from perceiving water as a social good to be provided free by the government, to acknowledging that water is a scarce economic resource that should be provided according to the standard of service that users are willing to maintain, operate and finance. Not only were rural users expected to provide 10 per cent of the capital costs, they were fully responsible for operation and maintenance through the Panchayati Raj institutions and/or the water committees. The private sector is acknowledged as having a significant role to play, given the "financial constraints and managerial limitations" of the State. Private sector participation

330 The Committee on Pricing Water (as part of the National water Policy, 1987) deals with rationalizing water rates and have suggested increase in irrigation water rates in a phased manner. The pricing of water for various uses will have to take into account the paying capacity of the users including farmers and large population below poverty line.
332 Supra at n. 10.
was further encouraged. This was further stressed in the draft National Water Policy of 1998, brought out by the Ministry of Water Resources to review and assess the progress made in water management. According to a recent review of the Report of the First National Commission on Water (1999) by one of its members, women have "little voice in water-resource planning in this country", and yet they are always depicted as the providers and managers of water at the household level. Not surprisingly, the thrust of the Commission's report was on large water resource development projects as the primary answer to the future needs of a growing population.

3.4.2. National Water Policy 2003

The next National water Policy which came after 14 years in 2002, realizes the importance and scarcity attached to fresh water, it has to be treated as an essential environment for sustaining all life forms. Water is one of the most crucial elements in development planning. As the country has entered the 21st century, efforts to develop, conserve, utilize and manage this important resource for sustain ability have to be guided by national perspectives. The policy reiterates water as a scarce and precious national resource to be planned, developed, and managed as such, and on an integrated and environmentally sound basis, keeping in view the socio-economic aspects and needs of the States concerned.

The Policy acknowledges that floods and droughts affect vast areas of the country transcending state boundaries. A third of the country is drought prone. Floods affect an average area of around 9 million hectares per year. According to National Commission of Floods, the area susceptible to floods is around 40 million hectares. For the first time, a National Policy talks about approaches to management of drought and floods have to be co-ordinate and guided at the National level. The policy insists on proper and effective planning and implementation of water resources projects, which affect people, livestock, dam safety. The Policy directs planners of water resource projects to study the impact of a project during construction and later on human lives, settlements, occupations, socio-economic, environment and other aspects, as an essential component of project planning. The policy stresses the involvement and participation of beneficiaries and other stakeholders, to encourage them right from the project planning stage itself.

The Policy calls for a well-developed information system at the national/state level for water related data in its entirety for resource planning. Coding, classification, processing of data and methods/procedures and continuous update and dissemination of knowledge are important prerequisite. The Policy asks States to implement traditional methods of water resource

334 Ibid.
planning. The need to adopt rainwater harvesting to further increase the utilization of water resources. Interestingly, the Policy makes an ambitious idea; water should be made available to water short areas by transfer from other areas including transfer from one river basin to another, based on a national perspective. This policy on interlinking rivers is evaluated in the present chapter.

The Policy also talks about developing institutional mechanism for inter-state rivers and development of sub-basins in all rivers. Special multi-disciplinary units should be set up to prepare comprehensive plans taking into account not only the needs of irrigation but also harmonizing various other water uses, so that the available water resources are determined and put to optimum use having regard to existing agreements of awards of Tribunals under the relevant laws. In the planning and operation of systems, water allocation priorities should be broadly as follows:

1. Drinking water
2. Irrigation
3. Hydro-power
4. Ecology
5. Agro-industries and non-agricultural industries

Ground water depletion and its environmental pollution are a matter of serious concern for policy makers. It is the bounden duty of both the Central and State Governments to abate ground water contamination and pollution. Ground water recharge project should be developed and implemented. Over-exploitation of ground water should be avoided, especially near the coast, to prevent ingress of seawater into sweet water aquifers. Proper land management in the coastal States is essential to prevent soil erosion. The Policy directs States to provide safe drinking water to all people, both rural and urban. Irrigation scheme must invariably include drinking water component. Irrigation schemes must aim at optimizing water use efficiency. Water use and land use must be closely interlinked. Water allocation must be purely on natural justice principles with equity and social justice as its landmark. The Policy also, for the first time, talks about resettlement and rehabilitation at the National Level.\(^{335}\)

\(^{335}\) Review written by the same author in the CEERA Newsletter, National Law School of India University, Bangalore, India. Feb. 2003.
The National Environmental Policy 2004 makes enough reference to water conservation without making any reference to the 2003 Policy as discussed above. It expresses alarm over the wasteful and inefficient use of surface as well as ground water and points to a slew of actions that need to be taken for conservation. The policy does refer to levy of proper user charges to reflect water scarcity and calls for a review of the subsides now being extended to the agricultural sector. Agriculture consumes nearly 80 percent of the country’s utilizable water.

3.5. WATER RIGHT

While the Union has exclusive powers with regard to inter-state rivers and river valleys (List I Entry 56), States have powers on water, that is to say water supplies, irrigation and canals, drainage and embankments, water storage and waterpower subject to entry 56 of List I’ (List II Entry 17). The reason behind the latter position is that there is diversity amidst states in the matters of climatic and geographic conditions, rainfall, topography, crop pattern, extent of groundwater resource and irrigation methods which require regional policy making and implementation. But discomfort arises with states’ inactions and retrograde actions.

Right over any resource is not necessary when it is abundant and freely available. It 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 the human society from such natural disasters. On the other hand, there were droughts and water scarcity and so was the need for certain rules and regulations to use the available water more effectively, equitably and efficiently. Thus, in the process of development of a society, water has emerged as one of the most important natural resources to deal with, for a better human living. Indeed, in the recent times, the increasing gap between demand and supply has resulted in several managerial problems such as allocation, maintenance, prioritizing use of water and need to resolve conflicts that may crop up in the process of sharing.

Conferring water right is an important measure or an institutionalized principle, which regulates water use and conflicts. All laws relating to water and other natural resources became necessary because of progress attained by human societies, which in turn brought demand for

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336 This show, lack of vision and integrated approach towards resource conservation.
resources, scarcity conditions and problems of free riders; precisely because of these reasons, there was a need for informal rules and regulations; these have evolved over a long period time. These have reflected 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 good deal of changes. These changes were influenced by factors such as geo-physical and climatic conditions, socio-economic and political conditions and level of technological development.

While the law concerning water supplies, irrigation and canals, drainage and embankments, water storage and water power within a State territory is to be passed by the States\textsuperscript{338}, the legislation relating to the regulation and development of inter-State rivers and river valley is the domain of Central Government.\textsuperscript{339}

True equitable distribution of water is an attribute of right to live. It is also an integral part of the right to development, as the people should have equal access to the basic resources. What are important are rather the rights of the people living in the riparian regions in different States than the rights of the riparian States as such to use the water from inter-State rivers. Juristic discourse on the problem is often confined to the constitutional riddle.\textsuperscript{340} On the contrary, sharing of Inter-State River basically involves the right of the people to have access to the environmental resources and has to be considered as a human rights problem.

Numerous international instruments reflect the view that the rights of state in the use of shared rivers are not unlimited. As early as 1933, the conference of American States declared that the exploitation of international rivers should not injure the rights of the neighboring states and should be subject to a process of notification and agreement, stating that ‘no state may, without the consent of the other riparian state, introduce into water courses of an international character, for the industrial or agricultural exploitation of their waters, any alteration which may prove injurious to the margin of the other interested State.’\textsuperscript{341}

At the same time Water must be allowed to find its own levels. It cannot be left unregulated and uncontrolled, for it may descend upon us as rain or floods causing misery. The uses of water are multifold. Flowing water, when used legitimately, benefits, but when it overflows and results in flood, it damages the abutting properties. Using water in a manner detrimental to others creates a cause of action, which is redressable in a court of law. Regulation and

\textsuperscript{338} Entry 18, Seventh Schedule, List II.
\textsuperscript{339} Constitution of India, Seventh Schedule, List II, Entry 17.
\textsuperscript{340} P. Leelakrishnan, Cochin University Review, Compilation, CEERA, p. 164.
\textsuperscript{341} Philip Sands p. 348.
control of water by the state creates rights and obligations between state and subjects as also between states inter-
se. Any violation of such rights gives rise to a variety of litigation – civil and criminal.

The remedies against violation of water rights are both statutory as well as common law. The statutory remedies are found under the Environmental (Protection) Act, 1986; the Water (Prevention and Control) of Pollution Act, 1974\textsuperscript{342}; the Indian Penal Code, 1860; and the Criminal Procedure Code, 1973. A writ petition can also be filed under Article 32 in the Supreme Court or under Article 226 in the High Court for seeking remedy against violation of water rights.

3.5.1. \textit{Prescriptive Right}

Right to Water means access to water which is ‘sufficient’ ‘affordable’ and ‘accessible’. Thus right to water is right to access to water in quality and quantity.\textsuperscript{343} Rights [Water] are basically certain kind of institutional arrangements, which have evolved / 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 over water for a community, but also subsumed all critical functions of water management. And, given the local power structure, unequal access to means of production, these institutions performed well in protecting the water rights of user communities. In the Indian context, the emergence of colonialism and formation of welfare state have not only altered the power relations but also have contributed to disintegration of these rights over natural resources, in particular water. At the same time, it is not to deny the wisdom that State has a key role in facilitating water use and in protecting the rights of user-communities. Further, in the context of present water rights debate, it is necessary to distinguish between rights acquired / gathered over time (riparian rights), and rights gained due to access to resources. Urban industrialists controlling water resources in the rural areas by

\textsuperscript{342} Another legislation dealing with the aspect of purity of water is parts X-B and XI-A of the Merchant Shipping Act, inserted by the Amending Act of 1983 dealing with every aspect of marine pollution.

\textsuperscript{343} Water as a Human Right, John Scanlon, Angela Cassar and Noemi Nemes; Http://www.iucn.org/themes/law/pdfdocuments/EPLP51EN.pdf.
sinking deep tube wells (much deeper than the existing ones in a village) is a classic case in support of rights gained due to control over resources.  

**Practice of traditional/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. The 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 latter by English laws. Though customary laws varied from state to state, they had some common ground such as community rights and informal arrangement. These customary laws 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 territoriality or ownership right... Limitless to space and quality, they are broader in approach than the legal systems".

In India, The Easement Act 1832 specifically recognized 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. However, this Act was not applicable to ground water.

No individual may claim any prescriptive rights of easements against the government in the waters of rivers, streams etc. The states have inherent right to administer or regulate the water flowing within their territories subject to the right of a riparian to get the customary quantity of water. The rights and obligations as between the state and the irrigators in India in the matter of irrigation, rest largely on customs and practices subject to irrigation statutes to some extent. But this in no way affects the government's right to control the supply and distribution of irrigation waters, and is not merely a proprietary right but is a sovereign right. Though the government's right to regulate irrigation in natural waters is paramount and sovereign in character, it cannot be exercised arbitrarily. In exercising its right, the government should not inflict injury on other riparian owners or diminish the supply, which the irrigators have hitherto utilised. The government cannot abdicate its duty of seeing that there is equitable distribution of water between tenants under each channel source. The government officers have no right to arbitrarily deny to a ryotwari holder water that for years he has been accustomed to receive for second crop cultivation on his lands. The system of distribution should be based on equity, fairness and justness. Easily said than done, the scarcity of clean drinking waters.

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344 What are the rights that user communities enjoyed in the past? What is the process in which these rights have been appropriated by the State? (Chatrapathi Singh calls it and rightly so, "the right of a welfare-state ?; Singh, 1991).  
345 See generally Steward, J.H(1955), Irrigation civilizations: A comparative Study, Department of Cultural affairs, Pan American Union, Washington, D.C.  
347 Ibid, p. 68.
water has brought about the biggest challenges faced by the State Governments in the new millennium.\textsuperscript{348} As regards ground water, the state governments have the legal power to regulate ground water.\textsuperscript{349}

\textbf{3.5.2. The Rights of the State\textsuperscript{350} in the Waters}

In India, almost all major rivers pass through two or more States. ‘Interstate’ water is the in the Central List\textsuperscript{351} and the Central Government does have control over rights of States in river water sharing. Over the years, shortage of water, for domestic and irrigational purposes, has seen some of the bitter conflicts among states over the sharing of the river water. The Central Government has always found out a way to the disputes, none of the solutions though suggest a viable sustainable approach.\textsuperscript{352} Sustainable development of resources has not been high on the agenda for the National or the State Governments. The objective of sustainable use and development of water resources can be achieved only with multi-dimensional approach. Not merely inter-State rivers, but underground aquifers also go across the State boundaries. No doubt, individual States may not be in a position to have an integrated approach to the proper utilization of water resources spread through the length and breadth of the country. It is here that a coordinated national water management scheme becomes imperative and a legal framework for implementation important.

The inter-State rivers that flow from one State to another or along different States should have separate machinery for the protection of the eco-system of the river basin with multi-disciplinary units attached to the authority for harmonizing various water uses on equitable consideration and in accordance with the awards of tribunals under relevant laws.\textsuperscript{353} Plans are to be devised and agencies established for the purpose of transferring water from surplus zones to drought prone areas or scarcity zones. National Policy suggests that project planning should pay special attention to areas inhabited by tribal and other disadvantaged groups such as Schedule Caste and

\begin{thebibliography}{9}
\bibitem{348} Take the dilemma of the Karnataka Government in summer of 2003. The farmers were protesting against the release of water to Tamil Nadu. Whereas under the Supreme Court directives, if the Chief Minister of Karnataka failed to release the water, he was asked to quit and step down.
\bibitem{349} Gujarat and Andhra Pradesh have regulated ground water, but it may be suggested that waters down to a particular depth, say thirty meters in alluvial plains, may be exempted from control.
\bibitem{350} Entry 17, State list in the seventh schedule of the Constitution.
\bibitem{351} Seventh Schedule, List –I, Constituional of India.
\bibitem{352} The Constitution permitted water-related issues to be controlled by the states, so prior regulatory efforts had been considered the domain of localities. In fact, during the 1950’s and early 1960’s, several states had taken steps on water protection. Laws passed included The Orissa River Pollution Act of 1953, The Punjab State Tubewell Act of 1954, West Bengal Notification No. 7 Regulation - Control of Water Pollution Act of 1957, Jammu and Kashmir State Canal and Drainage Act of 1963. The Maharashtra Water Pollution Prevention Act was passed in 1969.
\bibitem{353} Rivers passing through more than one State have Inter State Water tribunal established in India. For Ex: Cauvery River Tribunal, Godvari River Tribunal, Krishna River Tribunal, etc. Inter State Water Tribunals are constituted by the Center on the request of one or more States.
\end{thebibliography}
Scheduled Tribe and evolve Schemes of water distribution to all weaker sections of people. In all these ventures, equity in water distribution and use shall be the basis.\(^{354}\)

3.5.3. **Conflict of water users: Inter State**

Constitution of India, Art. 262 empowers Parliament to deal with the issue of adjudication of disputes relating to waters of inter state rivers or river valleys. Clause (2) of the article empowers parliament to enact provision barring jurisdiction of the Supreme Court or other courts in respect of such disputes. The Constitution lays down that Parliament may by law provide for the adjudication of any disputes or complaint with respect to the use, distribution or control of the water of, or in any inter-state river or river valley.\(^ {355}\) The power of the States to enact a law on water is subjected to the power of Parliament to pass a law on inter-state rivers and river valleys. The waters of an inter state river passes through the territories of more than one state. Obviously, it cannot be said that such waters belong to any particular state.\(^ {356}\) Neither the state from which the river originates nor the state where the river joins the sea can claim complete ownership of waters in an inter-state river. At the same time, the right to access to the waters flowing in the river can never be denied to the riparian regions and the people living in those regions. Water, one of the greatest gifts of nature, is an attribute of the right to live.\(^ {357}\) Equitable distribution of water is also an integral part of the right to development, as the people should have equal access to the basic resources.\(^ {358}\) Juristic discourse\(^ {359}\) is often confined to the constitutional riddle\(^ {360}\) on the rights of the states and it does not pertain to the rights of the people living on the riparian regions within different states. Sharing of inter-state waters

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\(^{354}\) For More see the National Water Policy 2003.

\(^{355}\) Art. 262(1).

\(^{356}\) In the matter of Cavery Water Disputes Tribunal AIR 1992 SC 522 at p. 550.

\(^{357}\) ‘Let us all concerned continue as intellectuals and not become apes by provoking and agonizing nature. The easiest way to protect nature is by polluting and/or remaining clalums to pollution, because water is one of the greatest gifts of nature’ MC Mehta v State of Orissa AIR 1992 Ori 225 at 232 per Pasayat J. See also Attakoya Thangal v U. O. I 1990 KLTI 580 at 583.

\(^{358}\) Declaration on the Right to Development 1986, Art 8(1).


\(^{360}\) Cavery Water Dispute Tribunal AIR 1992 SC 522. the plea on the basis of fundamental rights, under Art. 19(1)(g) and 21, of the inhabitants of the riparian regions was raised. The Supreme Court found that in order to decide the dispute, it was not necessary to go into the plea.
basically involves rights of access to environmental resources and has to be considered as the problem of right to life and development.\textsuperscript{361}

The Water Dispute Act, 1956 has been enacted by Parliament in exercise of the power conferred by Art. 262. Further, the Act deals with the setting up of a tribunal for the adjudication of a inter State water dispute. The tribunal shall consist of only one person nominated by the Chief Justice of India from persons who are or have been judges of the Supreme Court or the High Court of India. The decision given by the tribunal will be published in the official gazette and the decision shall be final and binding upon the parties to the dispute and shall be given effect to by them. No dispute may be referred to the tribunal except however, in respect of matters that may arise regarding anything that may be referred to for arbitration under The River Boards Act, 1955. Neither the Supreme Court nor any other Court shall have or exercise jurisdiction in respect of any dispute, which may be referred to a tribunal under this Act.\textsuperscript{362} The Court\textsuperscript{363} also held that the River Boards Act, 1956 which was admittedly enacted under Entry 56 for the regulation and development of inter-State rivers and river valleys did cover the field of the use, distribution and allocation of the waters of the inter-State rivers and river valleys and that State’s power under Entry 17 of List II to enact laws relating to water supplies, irrigation and canals, drainage and embankments, water storage and water power was subject to Entry 56.

Planned development of the river valley as a whole with multi-purpose use of the reservoir for domestic use, irrigation, hydroelectric power, fisheries and transportation is contemplated in the River Board Act. Although it is not yet put into action, its prototype like Narmada Control Authority has shown encouraging result as can be gathered from the Court’s judgment in \textit{Narmada Bachao Andolan}\textsuperscript{364} case.

It is interesting to note that the subject matter of this Act is not covered by any of the entries in the legislative Lists. Moreover the power conferred by this article overrides the legislative entries.\textsuperscript{365}

\textsuperscript{361} P. Leelakrishnan, \textit{Environmental Law In India}, Buttersworth, p. 70.  
\textsuperscript{362} Commission on the Centre State Relations, Report, 487-493 [Govt. Of India, 1988].  
\textsuperscript{363} \textit{Re Cauvery} 1993 Supp.1 SCC 96 para 72.  
\textsuperscript{364} \textit{Narmada Bachao Andolan v. Union of India}, AIR 2000 SC 3751.  
\textsuperscript{365} View of the Supreme Court, \textit{In the matter of the Cauvery Water Dispute Tribunal}, 1993 Supp. (1) SCC 96
There is also the possibility of conflict between the people and the state. It must be noted that in the context of the Inter State Water Dispute Act ‘inter state river water disputes’ means *inter governmental disputes*. Implicit in this is the assumption that rivers are resources of the state to be dealt with by the government for the people. This fails to recognize that the people could have concerns and interest of their own, and that there could be conflicts between these and the aims and purposes of the government as seen in recent cauvery conflict.

The Supreme Court also considered the concern of State of Maharashtra about submergence of its land in case of raising of the Alammatti dam’s height to the level of 524.56 meters. Sethi J., while concurring with the majority view, referred to the unreasonable attitudes of the riparian states motivated by local pressures and political compulsions and called for an approach that befits the position of responsible constituents of the federation. Looking to the human dimension involved, he observed, “Water is an important factor in the economic development of the countries which ultimately affects the social and human relations between the inhabitants. Planned development and proper utilization of water resources can serve both as a cause as well as an effect of the prosperity of a nation.”

The researcher had raised the issue, how the Cauvery water showdown then between Karnataka and Tamil Nadu was merely a symptom of the kinds of problems we were likely to face in future regarding the availability of fresh water. Today, this particular rift has taken on far graver proportions: Tamil Nadu and Karnataka are practically on the verge of war. At least one person has become a martyr to this cause by jumping into a reservoir in protest. This is causing simmering chauvinistic feelings among Kannadigas and Tamils to come to the fore, which is unfortunate.

However, there is no simple answer to the question of whether Karnataka should release more water or not. The Supreme Court has come up with an answer; but this is a strictly legalistic interpretation of certain treaties, which may or may not have been signed with full consideration of all the consequences. For instance, the folks in the Owens Valley in California never dreamt they were signing the death knell of their valley when they transferred water rights to a thirsty Los Angeles in the 1920s. There is no equitable solution in the case of the Cauvery: for it is a zero-sum game, and demand has risen in both Karnataka and Tamil Nadu. To expect the river to continue to meet everyone’s needs is to delude us.

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366 The Central Government has power to intervene in matters of inter state dispute in relation to water under Entry 56 Union List of the seventh schedule.
367 The classic example of the Cauveri water dispute, between the Karnataka and Tamil Nadu Government. Further these disputes are the main political vote planks for the parties.
370 Seminar paper; Water Rights; UGC-ASC Refresher Course October 2001, National Law School of India University, Bangalore, India.
This is not a local problem alone, incidentally. Water will become, according to some experts, the main reason for wars in many places.\textsuperscript{372} For water is much more precious than that other coveted fluid, petroleum: after all, you cannot drink petroleum, nor can you grow crops with it. There is the interesting conjecture that the West Asian wars are really about control over the waters of the Jordan River.

Behind all the religious rhetoric, there is a rational reason for Pakistan's desire to control Kashmir: the waters of the Indus. Today, Pakistan has good reason to feel vulnerable: if India, which controls the headwaters of the Indus, were to divert them, Pakistan would in effect turn into a desert. It is a different matter that India would find it rather difficult to deal with all that water: where can it be diverted to fruitfully, and how? There have been reports recently about how the Pakistanis are attempting to melt glaciers in their control in the Siachen area by covering them with coal and thus increasing the solar heat absorption.\textsuperscript{373} Short-sighted? Certainly. Once the glacier is gone, there might be no more water. These are not harvestable resources, but ones that need husbanding.

There is an immensely frightening prospect along similar lines. The Chinese now control the Tibetan plateau. And the major rivers of the Asia generally rise from Tibet. For instance, the Indus, the Brahmaputra, the Irrawaddy (or Aravati), the Mekong. And the Chinese have an ambitious programme to divert the waters of all these rivers up north to their thirsty interior provinces. If this is done, Northern India, Bangladesh, upper Burma and all the riparian states of the Mekong, including Laos, Vietnam and Cambodia, will rapidly turn into deserts. Given the nature of the Chinese government, they will use this fact to blackmail all of these countries.

Therefore, India is vulnerable on several counts. Current usage patterns are unsustainable, as the water table is falling swiftly in many parts of India. The problems in Bangalore and Chennai with dried-up wells are legendary. This is the only way forward, until and unless we ever arrive at a point when solar energy gets to be so cheap that sea-water desalination becomes economically feasible. At least coastal cities in the tropics will be able to afford it.

Today, even affluent Singapore is forced to purchase water from Malaysia rather than attempting to desalinate sea-water.

The current imbroglio between Karnataka and Tamil Nadu is a mere sideshow: it merely makes for fine grandstanding. But the solution is in the hands of the people: each of us have to conserve and harvest. The result of the diverse human activities taking place in the river basin is reflected in the river. Take the example of deforestation. The felling of trees enhances the damage caused by floods and droughts. Water pollutants discharged at one point will flow downstream the river and adversely affect water use down the river. To resolve the problems of irrigation and salination, dams are built in the lower reaches, and they impede the upstream movement of fishes. Problems of this nature lead to regional conflicts in which the upstream parts may be at odds with the downstream parts or the left with the right riverbank. Such conflicts may escalate to international friction.\textsuperscript{374}

Here it would be important to note that Jammu and Kashmir Chief Minister Mufti Mohammad Sayeed on March 12 2003\textsuperscript{375} ruled out the possibility of scrapping the Indus Water Treaty, which legislators feel, is discriminatory to the state. The Indus Water Treaty of 1960 signed between India and Pakistan and backed by a World Bank guarantee, gives control of three major rivers in Jammu and Kashmir to Pakistan against complete Indian control of three other rivers in Punjab. The Jammu and Kashmir government has been complaining that the control of its three rivers -

\textsuperscript{372} Not merely inter-state rivers, even under ground aquifers go across the state boundaries. Obviously, individual states may not be in a position to have an integrated approach. It is here that a coordinated national water management scheme becomes imperative and a legal framework for implementation important. See P Leelakrishnan, p. 70.

\textsuperscript{373} Report on \url{www.rediff.com} dated 12/06/02.

Indus, Chenab and Jhelum - by Pakistan was disadvantageous for Kashmir. The legislators have gone to the extent of stating that the Central Government pay compensation for the loss suffered by the Kashmiri's due to the above treaty. This new conflict has already added to the many difficulties faced by India in the Kashmir valley. But this is only the beginning of a new era where people would wage war for water not for oil.

The Sutlej-Yamuna Link canal issue has rocked the nation, forcing a number of players to examine their stands on a number of questions. The national media has unanimously raised doubts about the 'intent and validity' of the unilateral decision of the Punjab Government to terminate the 1981 Agreement on sharing of Ravi, Beas and Sutlej river waters with neighbouring states, through the Punjab Termination of Agreement Act 2004. The Central Government has taken a more measured approach, first filing an application for directions and then moving a Presidential Reference leaving it to the Supreme Court to pronounce on the validity of the Termination Act.

The Act has serious implications for our federal polity; thus the failure of the Centre to take a decisive stand on the issue may be politically understandable, but not justifiable. It smacks of the familiar political tradition of come controversy, go Court that has taken hold in recent years. The Act itself is undoubtedly in blatant disregard of a judgment passed by the Supreme Court barely a month ago, when the court directed the State of Punjab to complete the construction of its share of the Sutlej Yamuna link canal within 4 weeks. Besides the Union Of India was directed to mobilize a Central agency to take control of the canal works from Punjab within the month of the date of the decision. Notwithstanding the Court's directions, the Termination Act is quite likely popular among the people of the state. The State government's precipitous decision has pushed a latent conflict to the surface. The tension arising out of an undercurrent of conflict between a decisive judicial will and an amorphous public opinion in Punjab has really been brewing for some time now.

The timing and the content of the Act were surely to take away the legal basis of the Supreme Court judgment on June 4. Also, the precedents provided by the Cauvery adjudication were against Punjab, and the unilateral decision to terminate an agreement has no legal footing whatsoever. However the real challenge to the Supreme Court was not the immediate incident

375 www.rediff.com visited 27/03/03.
376 http://www.southasiamonitor.org/focus/2003/mar/13water.html visited on 27/03/03.
itself, but a larger and more important question. It is the fact that while the Court keeps on adjudicating on the inter state water disputes; these decisions seem to produce little results on the ground. Often, the Court has been pronouncing verdicts and giving decisions which are not solutions, but as the present case shows, can become part of the problem themselves. The challenge thus is to the credibility of the Apex Court, and the repeated fact that court decisions, while decisive, do not necessarily prevail.

The real way to respond to this larger challenge is for the Court to not only lay down how far it is prepared to go while dealing with the water disputes between the States, but also show clearly and consistently that having gone thus far it will not go further.

The Judiciary's response to this challenge can be to haul those responsible for flouting its orders to face contempt charges. However, the Court knows that it is difficult to see a decision of a democratically elected government backed by popular will - even where it goes against a Court order - as contempt. Plus, even if the Court succeeds in one case, the chances of it succeeding consistently in similar water disputes remain thin. The Supreme Court itself has spent lots of time on the Cauvery issue. Yet despite all that it was not the lordships in the courtroom, but really the rain gods from above and a Chief Minister below who relented soon thereafter, that allowed the heat to subside this season. Next year, there is no guarantee of a repeat of this fortune! Likewise, the Supreme Court continues to oversee the Interlinking Rivers Project seeing it more as in the national interest, and ignoring that it was really a political decision. With the new Government doing a serious rethink on the mega project, the Court faces a potentially awkward situation here too.

There is thus a 'rights' perspective that sees the conflict as an essentially legal dispute, and a second perspective that shows that these are intensely political disputes as well.

The Court needs to construct a credible long-term response on such issues. It needs to facilitate and enforce the coming of the Draft National Policy Guidelines for Water Allocation, which would need to spell out in detail the broad legal and technical parameters for allocation of water among the basin states. A Draft of this policy has been in circulation with States for a long time now but is not getting finalised in the absence of any consensus. In a nation where droughts and

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377 The judgment dated June 4, 2004 was in pursuance of a suit filed in 1996 by Haryana seeking completion of the construction of the canal. This judgment titled State of Haryana v. State of Punjab is reported in 2004 (6) SCALE 75.

flood frequently coexist, it is imperative that the states come to an understanding on questions of sharing, and put that understanding in the form of these guidelines. It is only proper that if the States are failing to respond to human suffering. The judiciary should oversee the establishment of these guidelines. This is very much possible in a country where 'judicial co-governance' is a reality and where there are precedents of the Courts enforcing the establishment of guidelines in other areas.

Once it is agreed that each basin state is entitled to a reasonable and equitable share, and once considerations in determining equity - e.g. population dependent on water, contribution of water by each basin state, availability of alternate water sources and maximum satisfaction of the need of a state without causing substantial injury to other states - are all agreed upon, specific disputes could be decided within the framework of these parameters. Unless discussions and decisions on disputes on sharing river waters center around these parameters, political considerations will continue to haunt both the national and the state interests.\(^ {379} \)

**Pollution of inter-state rivers**
Concerning pollution of inter-state rivers, no inter-state legal dispute of serious nature has arisen so far. But this does not mean that there is no problem as such. Along with the increase in pollution of river water, legal dispute on this ground may also figure. It is to be noted that riparian states or their inhabitants have no right to divert pollutants to the river, but have the duty to prevent such act. Prevention principle, public trust theory and inter-generation equity operate to the effect that the river bed including that of tributaries ought not to be dumped with any pollutant and river water at the threshold of another riparian state shall be pure. Under section 16(2) (b) and (h) of Water (Prevention and Control of Pollution) Act, 1974, the Central Board has the power of coordinating the activities of State Boards and resolve disputes among them. It has also power to plan a nation-wide programme for the prevention, control and abatement of water pollution, and cause it to be executed. It has also the main function of promoting cleanliness of streams and wells in various areas of the State (Sec. 16(1)).

3.5.4. **Common Law and Water rights**
The common law remedies are in the nature of a tort action against the violator of the water right. The term 'common law' is derived from the Latin word *lex communis*. It is a body of customary law of England based upon

judicial decisions. In fact, common law remedies were available against violators of water rights even before statutory laws came into force.

The Indian law of torts is based on English common law. The rules of tort law were introduced in India during the British rule. The term 'tort' is the French equivalent of the English word 'wrong' and the Roman law term 'tortum', which implies conduct, which is tortuous or twisted. Tort law has grown over a long period around the concept of right and duty and the manner of enforcement of the right and duty by a court of law. A tort or a wrong is said to have been committed whenever there is a violation of the right of a person or breach of duty by another person for which the appropriate remedy is 'civil action'. For an injury caused to his water right, the affected person must first and foremost establish the existence of a legal right, which has been violated and second, a breach of legal duty by the person against whom damages are claimed.

Remedy available for a tort action is either preventive or punitive. The court has jurisdiction to award damages in the form of pecuniary compensation or to grant injunction, preventive or mandatory. The judiciary awards pecuniary compensation in cases where it is found that the injury is (i) small; (ii) capable of being estimated in money; (iii) can be adequately compensated by money and (iv) where the case is one in which an injunction will be oppressive.

Damages may be either substantial or exemplary. Substantial damages are awarded to compensate the plaintiff for the wrong that he has suffered. The purpose of awarding substantial damages is to restore the plaintiff to the position he or she would have been had the tort not been committed. Exemplary damages are awarded with an intention to punish the defendant for the outrageous nature of his act, as for example, when the defendant persists in causing a nuisance after being convicted and fined for it.380

Injunctions are granted at the discretion of the court. They are of two kinds, temporary and perpetual. Temporary injunction is regulated by Section 94 and 95 as well as Order 39 of the Code of Civil Procedure, 1908. Perpetual injunctions are regulated by Sections 37 to 42 of the Specific Relief Act, 1963.

Most of the water cases in tort law fall under the categories of nuisance, negligence and strict liability. The act of negligence may also constitute a nuisance if it interferes unlawfully and for a considerably long period of time with the enjoyment of another's right in land or it occasions on the highway a dangerous state of affairs as constructed with a single isolated act.381 The rule of strict liability as laid down in the case of Rylands v. Fletcher382 is usually dealt with as a separate tort, but depending upon the circumstances of each case it can also be considered as an extension of the law of nuisance.

The roots of modern environmental law are found in the common law concept of nuisance. The word 'nuisance' is derived from the French word 'nuire' which means to injure, hurt or harm. The term nuisance is incapable of a precise definition, but its concept is well comprehended. Nuisance may be described as an 'unlawful interference with a person's use or enjoyment of land or of some right or in connection with it.' For an interference to be an actionable nuisance, the conduct of the defendant must be unreasonable. A nuisance may be caused by negligence and there may be cases where the same act or omission may comprise a certain element of either kind, but generally speaking these two classes of action are distinct.

In common law, nuisance is of two kinds: (a) private nuisance and (b) public nuisance. Private nuisance is the using or authorizing the use of one's property or of anything under one's control, so as to injuriously affect an owner or occupier of property by physically injuring his property or by interfering materially with his leisure, comfort or convenience. Private nuisance affecting water rights includes acts leading to wrongful disturbance of easements,

381 See, Bottom v. Stone, (1951) AC 850 HC.
382 (1868) LR 3 HL 330.
e.g. disturbance of a right to use water from a particular water channel or tank, wrongful escape of water into another's property and so on.\[^{383}\]

A public nuisance can be defined as an unreasonable interference with a general right of the public. Public nuisance is first and foremost a crime because, 'it is a nuisance which is so widespread in its range or so indiscriminate in its effect that it would not be reasonable to expect a person to take proceedings on his own responsibility to put a stop to it, but that it should be taken on the responsibility of the community at large.’ Public nuisance is a crime, which can be tried summarily or on an indictment, which can lead to civil liability towards anyone suffering special damage, while private nuisance is a tort.

In order that an individual may have private right of action in respect of a public nuisance: (i) He must show a particular injury to himself beyond that which is suffered by the rest of the public. He must show that he has suffered some damage more than what the general body of the public had to suffer. (ii) Such injury must be direct, and not a mere consequential injury; as where one-way is obstructed, but another is left open. (iii) Injury must be of a substantial nature.

In nuisance action, a plaintiff has a choice between injunction and remedies. It is common for a plaintiff to seek an injunctive relief to stop the defendant from continuing his activity. The defendant, on the other hand, would be more than willing to pay damages rather than give up his activity. The granting of injunctions, being a discretionary remedy, is usually more suitable for balancing conflicting interests.

This act of balancing conflicting interests, however, has given rise to innumerable difficulties and uncertainties in practices, which are particularly apparent in water cases dealing with pollution. In private nuisance, damages are awarded when there is interference with the right to the use or enjoyment of land and in some cases both are awarded. Public nuisance, on the other hand, affords protection to persons other than those with an interest in land.

In public nuisance, damages for personal injury as well as economic loss can be recovered, while in private nuisance, it is primarily damage to land and goods, which is compensated.

In cases of continuing nuisance, it has usually been held that an injunction should be granted in some form unless the injury complained of is trivial. Thus, in Nimal Chandra Sanyal v. Municipal Commissioners,\[^{384}\] the discomfort caused to the plaintiff by the construction of the pucca hackney carriage stand in front of his property, which had no proper drain or channel to drain off the excreta of his horses, with the result that the offensive matter drained into and accumulated in a long strip of land in between the pucca stand and the plaintiff's land, was not considered to be a proper relief. In this case, the commissioners of the municipality were directed to keep the strip of land in between the hackney carriage stand and the plaintiff's land clean by providing a suitable pucca drain within six months from the date. The Court also held that if the commissioners failed to provide a suitable drain, the plaintiff could get such a drain constructed and the costs recovered from the commissioners of the municipality.

Whether an individual would prefer seeking an injunctive relief or pecuniary relief or both in case of a public nuisance depends on the facts and circumstances of each case. In Syed Muzaffar Hussain v. Administrator of the Lahore Municipality,\[^{385}\] there was an old storm water channel in the area known as Gowalmandi which was constructed before that area become densely populated. With increase in population, the need for sanitation grew acute and the municipality adopted the simple expedient of discharging sullage water into the old storm water channel. The plaintiff claimed that this led to two distinct nuisances from which he, in particular, suffered.

\[^{383}\] See, Dhanusao v. Sitabai, ILR 1948 Nag. 698; Becharam Choudhary v. Puhubnath Jha (1862) 2 Beng. LR (Appx) 53; Baldeo Das v. Secretary of State (1883) PR No. 30 of 1883.

\[^{384}\] AIR 1936 Cal. 707.

\[^{385}\] 198 I.C. 773.
The first nuisance was that during the rainy season, water overflowed into his house with unpleasant results. The second nuisance was created when the water in the channel became stagnant and gave off a stench so offensive that his house became uninhabitable. The plaintiff sought an injunction to restrain the municipality from discharging sullage water into this channel, or in the alternative to compel it either to convert the channel into a suitable drain or to have proper drainage laid down everywhere.

It was held that the plaintiff was entitled to an injunction since damages alone would not have given him the desired relief. Strangely, the Court in this case held that an injunction could not be given to interfere with the working of government departments and that the committee could not be compelled to make satisfactory drainage arrangements, though it could be restrained from making arrangements which would be negligent or dangerous to health or even interfere with the ordinary comfort of an individual. Finally, considering that the administrator of the Lahore municipality had pleaded separately, an injunction was issued to him to restrain from discharging sullage water into the storm water channel.

In the above-mentioned case, the Court gave no reason why an injunction could not be issued to interfere with the working of a government department and why the government could not be compelled to make satisfactory arrangements. With an increase in the needs of society, the law should also develop accordingly and impose a moral duty (which would take the shape of a legal duty) on the state (in this case the committee) to meet the essential needs of its people. It is possible in certain cases that the comfort of a private individual to an extent suffers in the public interest. But an individual should suffer only when no other arrangement can possibly be made. In the case under discussion it was not shown that no other arrangement for drainage could possibly be made. In fact, it was stated that more satisfactory arrangements for drainage were already under contemplation.  

In Khurshid Hussain and others v. Secretary of State, it was held that for private individuals to establish a cause of action with regard to a public nuisance, special damage must be proved, but it may not be essential in all circumstances. The Court observed that ‘special damage’ in cases of nuisance was that damage which an individual had suffered over and above the inconvenience faced by other members of the public. And in an action for damages in such a case, ‘the mere fact that persons did not give any details of the damage which they suffered in no way detracted from the right to succeed in the action if their success or failure depended upon that point.’

Briefly, the facts of that case are as follows: A bundh was created by the government parallel to the railway line on the Futwah Road, south of Patna, to prevent the city and its bazaar from being inundated by water due to an overflowing Poonpoon river. In times of flood, the construction of the bund prevented the water from draining away to the north and the district in which the plaintiffs houses were situated was thereby flooded. The plaintiffs sought a mandatory injunction against the Secretary of State to remove the bundh. They also claimed damages for the loss suffered.

The Court held that to establish a cause of action against the defendant it was essential for the plaintiffs to prove that they had a prescriptive right to drain off flood water towards the north and that the erection of the bund by the defendant had interfered with their right. It was further observed that the plaintiffs had no absolute right to have their

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386 See Ratlam Municipal Council v. Vardichand, AIR 1980 SC 1622, where the Court held that it was mandatory for the municipal corporation to provide adequate drainage and sewage system to the public and that the municipal corporation could not shirk its responsibility by stating that it did not have enough financial resources to provide people with a functional drainage system.

387 AIR 1937 Pat. 302.

388 A prescriptive right to commit nuisance may be acquired if a person has continued with an activity on the land of another person for 20 years or more.
land kept free from floodwater by draining it to the north and flooding these lands. Their right, if any, was subject to drain water through certain defined channels.'

Because the plaintiffs could not show that they had a prescriptive right to drain floodwater in defined channels, the Court negated their claims for injunction and special damages. Similarly, a person cannot claim a right to foul an ordinary drain by discharging into it what was not intended and then place on other persons an obligation to alter the drain in order to remedy the nuisance that he has caused.

It has been held that where a person comes to court complaining of a private nuisance injuriously affecting his property and health then he has a genuine cause of action, which in law is, based on the maxim *sic utere tuo ut alienum non laedas.*

In *Manumal Shamdas v. Sahsanoma,* the defendant dug a well in his courtyard for the purpose of obtaining water from an artesian well by means of a boring pipe. After inserting the pipe he left the well unfilled, which was continually being filled in with water from the boring pipe. The well and the boring pipes were in close proximity with the wall of the plaintiff's house, which were affected injuriously. The plaintiff filed a suit for a mandatory injunction directing the defendant to close up the well and also claimed damages. The Court held that there was definitely a want of care on the part of the defendant who was responsible for the damage incurred by the plaintiff. Accordingly, a mandatory injunction was granted to the plaintiff. To succeed in an action for private nuisance it may not be necessary to prove special damage.

In *Maung Thit Sa v. Maung Nat* the Court held that where a person was in the enjoyment of a right and another deliberately infringed that right, the person injured could succeed in an action for damages without proving special damage, i.e. whether any damage had been proved to have accrued to him or not. In that case the parties were lessees of adjoining fisheries, the fishery of the plaintiff-appellant being the lower one. For 22 days of the season the defendant-respondent continued placing illegal obstructions to the passage of the fish which reduced the plaintiff's catch. The plaintiff sued the defendant for damages. The Court overruled the allegation on the ground that proving special damage was an impossible task in a situation like the present one. Strangely enough, though the action of the defendant in the present case was considered a tort, the word 'nuisance' as such was not mentioned. Reflecting upon the cases mentioned above it is apparent that the judiciary has considerably underplayed the tort of nuisance in water cases. In several old cases where an interference in the right of enjoyment in land or otherwise has been held to be a tort there has been no mention whether the particular tortious act was a nuisance or not. This uncertain position taken by the judiciary has adversely affected the growth of tort of nuisance. Or having been guided by the principle that not every 'fleeting or evanescent' interference will be an actionable nuisance except one, which is substantial and unreasonable, the courts have been hesitant in recognizing the efficacy of this area of tort. Thus, where water flowed over the plaintiff's land but only caused 'trivial injury', the claim of nuisance was rejected. Such an approach taken by the judiciary may not be wise today.

The term 'pollution' has been differently described in different acts. Some describe it as 'nuisance' while others define it either as 'neglect to carry away rubbish' or causing 'water to be corrupted'; some statutes define 'pollution' as 'poisoning' of water.

In tort law the act of polluting water is termed as a nuisance. Filthy or dirty water, whether flowing or standing, is hazardous to nearby residents. The situation becomes worse if the concerned authorities do not take any steps to prevent such an occurrence. Therefore, it is important for the judiciary to recognize the efficacy of this area of tort and grant appropriate remedies to the aggrieved parties.

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389 159 I.C. 1103.
390 74 I. C 41.
391 Sec. 2 of the Water Act 1974 definition varies with the definition of Pollution under the Environmental Protection Act 1986 etc.
392 Observation by judges in judicial interpretation of statutes in different Supreme Court and High Court cases.
drain off the water from residential localities. The right of throwing filthy water on a neighbour’s land is an easement, which can be acquired either by grant or under Section 15 of the Easement Act by prescription. If such right is not acquiesced, the act of polluting amounts to actionable nuisance.393 A right to pass filthy water and other water on the land of another, can be acquired by long and immemorial user394 but a right to flow dirty water towards the house and well of a neighbour cannot be acquired as it amounts to nuisance.395

In Pakkle v. P. Aiyaswami,396 the court held that the villagers had an ancient common right to the use of water in the suit tank for their drinking and catering purpose as well as for the use of cattle. In that case, the plaintiff brought an action under nuisance to restrain the defendants from laying salt pans in the bed of the suit tank which had made the water in it useless for bathing, drinking and other purposes. The suit tank belonged to the government. The contention of the appellant that the suit tank being government property was not the property of the villagers and, therefore, there could be no injunction restraining the defendants from converting the bed of the suit tank into salt pans was negatived by the Court.

The polluter-defendants also alleged that it was the government alone that could prevent them from doing anything on their property. Basing its decision on the evidence admitted, the court concluded that this action of the polluter-defendants amounted to a nuisance and the plaintiff-villagers were entitled to the injunction prayed for. It also stated that because the plaintiff-villagers had a common right over water in the tank, any interference with that right gave them a cause for action even though the interference was not in respect of the land belonging to the plaintiff.

Water pollution caused by industry and factories is rampant in India today. In earlier times, when the impact of industrial pollution was not so severe, the courts tended to uphold the rights of industrialists to pollute water. The penal sanctions were also not strictly adhered to.397 But with an increase in industrialization, water pollution became a major problem, which could not be handled through criminal or penal sanctions. As the government became more aware of the magnitude of the problem, it restricted the right to pollute by enacting legislations such as the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) and the Environment Protection Act, 1986.398

It has been seen that most judicial decisions dealing with water pollution before the enactment of the Water Act were in favour of the polluters. The reason for this could be attributed to the fact that most polluters were economically and socially well off. Even when the Water Act came into force, the maximum number of notices and litigation launched by the Central Water Control Board has been against small factories.399

As a consequence, all big polluters continue to pollute. Looking at the ineffectiveness of the statutory provisions in prosecuting the big polluters, the Supreme Court in a recent case of Vellore Citizen Welfare Forum v. Union of

393 AIR 1937 Mad. 823.
394 (2 Bom. L.R. 89).
395 AIR 1979 All. 71.
396 AIR 1969 Mad. 351.
397 See Deshi Sugar Mills v. Tupsi Ram Kahar [AIR 1926 Pat. 506; Empress v. Holodhan Pooroo (ILR Cal. 383); Emperor v. Nana Ram (6 Bom. LR 52, 1904)]; Reg v. Partha (Cr.R.1885).
398 As early as 1962, however, the Ministry of Health had begun to address water pollution issues by appointing a study committee. The committee made recommendations for both central and state level action. Jurisdictional questions remained unsolved between the states and central government, but by 1965 a draft bill was finally being circulated which allowed the states to pass resolutions authorizing Parliament to enact legislation on their behalves. By 1969, a bill, the Prevention of Water Pollution, had been introduced. Ultimately, a modified version, the Water (Prevention and Control of Pollution) Act, passed in 1974. Institutionalizing a regulatory agency for controlling water pollution marked the first true commitment on the issue by the Indian Parliament. The Water Act also established the Pollution Control Boards at central government and state government levels.
India gave relief to the victims of water pollution caused by tanneries by recognizing the act of polluting water as causing nuisance to the people.

In this case, a writ petition was filed against the large-scale pollution caused by the 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 heal-thy environment, awarded compensation to the victims of pollution on the basis of the ‘precautionary principle’ and the ‘polluter pays principle’ – two of the several salient principles of ‘sustainable development’.

It is submitted that in order that a tort, like nuisance, is effective in protecting water rights and preventing and controlling water pollution, the legislature must make the tort of nuisance more specific. It has been observed that in all water cases falling under tort of nuisance there has been no emphasis on the application of the duty principle. The courts have largely been concerned with restraining the defendant from interfering with the plaintiff’s right. The tort of nuisance in water law is still in the evolutionary stage. It may cover a variety of situations or just a few specific ones. It may comprise an element of fault, negligence or strict liability or none of these.

Therefore, it is suggested that to increase the utility of tort of nuisance in resolving water-related disputes, the legislature should enact a law of nuisance so that specific forms of nuisance could be placed under specific laws. It is also suggested that if the requirement of proving special damage on the part of the injured party were dispensed with in case of public nuisance then the efficacy of the tort of nuisance in curbing water pollution would be considerably enhanced.

Rights of Riparian Owners against pollution

At common law and also under sec. 7(1) of the Easements Act, 1882, every riparian owner has a right to the use of the water of a natural stream in its natural condition without any obstruction or pollution of that water. It would appear that the Common-law right exists under the Law of Tort quite apart from statutory provisions. In common law, every riparian owner is entitled to the continued water flow of a natural stream in its natural condition, without any obstruction or pollution and undiminished in quantity and quality. Every landowner has a natural right to water of natural surface streams, which passes his lands in defined channels, and to transmit the water to the land of other persons in its accustomed course. This right belongs to the proprietor of the adjoining lands as a natural incident to the right to the soil itself. Riparian owners are entitled to use and consume water of the stream for drinking and household purposes, for watering their cattle, for irrigating their land, and for the purpose of manufacture subject to conditions that: (a) the use is reasonable; (b) it does not destroy or render useless or materially diminish, or affect the application of the water by riparian owners below the stream in the exercise of

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400 AIR 1996 SC 2715.
natural right or their right of easement if any. The pollution of a natural stream is a wrong, actionable at the instance of any riparian owner past whose land the water so polluted flows.\textsuperscript{401}

Though the Indian legal system recognizes a common law riparian right to unpolluted water, it is rarely invoked in contemporary litigation concerning water pollution. In \textit{M.C. Mehta v. Union of India}, the Supreme Court acknowledged the existence of such a right by stating that, ‘in common law the municipal corporation can be restrained by an injunction brought by a riparian owner who has suffered on account of the pollution of the water in river caused by the corporation by discharging into the river insufficiently treated sewage from discharging such sewage.’\textsuperscript{402} In case of violation of rights affecting non-riparian owners, the rules of English law continue to apply.

The aggrieved party is provided a remedy under the tort of ‘nuisance’. Unlike ‘negligence’ where taking of ‘reasonable care’ is a defence for the defendant, no such defence is necessarily available to a defendant under nuisance.

In view of the enormous spread and extension of irrigation from rivers in India, the question would arise whether canal water is the water of a natural stream and whether the Common law rights would attach to such water?. Wherever the river water is used directly from the river, the Common law right, as also the right given under Sec. 7(f) of the Easements Act would certainly be available to the riparian owner. Since the canals supply the same river water even though the water flows into the definite canals and the use of such water is also regulated by statutes governing irrigation, the question needs consideration is whether the Common law right to prohibit pollution of such water can be exercised by the users of such water and whether such users can be called riparian owners with a riparian duty not to pollute?

While the Supreme Court’s opinion in \textit{Re Cauvery}\textsuperscript{403} did not focus on the integrated use of surface and groundwater as a method to face water scarcity, \textit{Narmada Bachao Andolan}\textsuperscript{404} looked to the aspect of the augmentation of groundwater owing to reservoir. The trend towards integrated approach is clear in this development. It is highly desirable that the profuse source of groundwater in lower basin of Cauvery is properly taken into account in determining the extent of its dependence on surface water flowing from upper riparian state, which has been facing continuous water shortage.

The substantive principle relating to water allocation amidst riparian states in India is equitable apportionment theory as evident from the awards given by Krishna, Godavari and Narmada Tribunals.\textsuperscript{405} Ever since the Indus

\textsuperscript{401} The common law doctrine of riparian rights has been codified in India by the Indian Easements Act, 1882. Illustrations (f) and (h) of Section 7 of the Act deal with pollution of waters.

\textsuperscript{402} AIR 1988 SC 1115.

\textsuperscript{403} Re Cauvery, 1993 Supp.1 SCC 96.

\textsuperscript{404} Narmada Bachao Andolan v. Union of India, AIR 2000 SC 3751.

Commission of pre-independence period, this principle is used to allocate fair share of the common river amidst the riparian states.\textsuperscript{406} This theory postulates that a drainage basin or inter-state river is one single unit irrespective of the political or administrative boundaries dividing the concerned federal units. Emerged as the guiding principle in resolving inter-state water disputes in America, its major focus has been on equality of rights amidst riparian states on the basis of various factors including social and economic needs consistent with the corresponding rights of co-basin states. It believes in distribution of the waters among the contending parties in such a manner to satisfy their rational needs to the greatest possible extent and achieving maximum benefit for each co-riparian state with minimum detriment to each. Protecting the legitimate expectations based on prior use is also within its domain.\textsuperscript{407}

According to Narmada Water Disputes Tribunal, in addition to looking to the previous agreements or judicial decisions, other matters that need scrutiny are: volume of the stream, existing uses, areas of land yet to be watered, the physical and climatic conditions of each state, the relative productivity of land in the state, the state-wise drainage, the population dependent on the water supply and degree of their dependence, alternative needs to satisfy their demands, and avoidance of unnecessary waste in the utilization of the water by the concerned state.\textsuperscript{408}

3.5.5. Dams and water rights

India suffers from widespread water scarcity. Rain comes in one seasonal period of deluge with 90\% of the annual rainfall occurring in the summer monsoon. Dams allow the deluge to be impounded and stored so that it can be used year-round in the same area or transferred to a water-short area by pipeline or canal.

One Important provision added by the 42\textsuperscript{nd} Constitutional Amendment\textsuperscript{409} is Art. 51-A. The Article which finds a place in Part IV A entitled ‘fundamental duties’ states: \textit{It shall be duty of every citizen of India- to protect and improve the natural environment including forest, lakes, rivers and wildlife and to have compassion for living creatures.}

An important anomaly in the existing constitutional scheme is that the citizens of the country have no constitutional remedy when the state fails to discharge the constitutionally ordained injunctions and also when it willfully damages the natural environment, which it is constitutionally obliged to protect.

When the interests of the state may come into conflict with those of the citizens, as the cases of anti-dam movements show, the citizens should have been guaranteed a constitutionally enforceable right to a decent environment. But the courts are reluctant to do so as is evident from some of the decisions of the Courts.\textsuperscript{410}

At the same time, the benefits of the 'water revolution' have not equally reached the entire population. Of the total annual per capita water withdrawal in the country, estimated at 612

\textsuperscript{406} B. R. Chauhan, Settlement of International and Inter-State Water Disputes in India (Bombay: N.M. Tripathi Pvt. Ltd., 1972) pp.31 to 34.
\textsuperscript{407} Ibid.
\textsuperscript{409} In the year 1976.
cubic meters, 5.94 is used by agriculture and industry, and 18 cubic meters is for domestic use. Only 1140 cu km of water resources have been made utilizable annually out of the total available flow of about 1880 cu km. This has been the case because the Indian expert policy makers have largely ignored our indigenous low-cost traditional systems of water harvesting, which were small-scale and sustainable and looked after the needs of the local people, particularly the disadvantaged. Instead, the ruling elites of the country adopted western development models that were in operation, centralizing the management and ownership of all resources through the Easement Act and Irrigation Laws. "Proclaiming the absolute right of Government in all natural water," they built large dams and canals which not only irreversibly degraded the environment in some places, but also created new political and social conflicts over water use and ownership, like the inter-sectoral and inter-regional river conflicts. 411

The arguments for the construction of an irrigation work in terms of ‘national good’ broadened the referential scope of the meaning of the term ‘common good’ in Art. 39(b) of the Constitution, that is, the ‘common’ now includes not only the local inhabitant near the river where irrigation work is to be constructed, but also a much larger community. This argument is tenable and sensible. It is also true that a large community must have access to the utilisation of the common water resource. However, this argument allows only the possibility of benefit sharing from a smaller to large community. It does not, in any way, allow the substitution or the elimination of the smaller community. No principle of distributive justice can allow this. What in fact happens in the construction of large-scale projects is that the local inhabitants are totally displaced and dispossessed of the original resources available to them. The benefits arising out of the new use of the water resource is either of a type to which they cannot have access, because they do not have the buying power, or the benefits are distributed in a manner which does not reach them. It would be agreed that this is nothing but gross violation of all principles of distributive justice laid down in the Constitution. The issue in dam building has been that the poor have always sacrificed for the benefits of the already rich. The dams are built in areas which are inhabited either by Indigenous people or local villages who do not have voice in the democratic decision making process. Agenda 21 of the Rio Declaration insists at

410 For example: The Narmada Judgment and the Silent Valley litigation. 411 Dr. Vandana Shiva: Water Privatization in India

developing irrigation schemes which have not only the potential to supply great increases in food production, but also the potential for the destruction of wetlands, water pollution, increased sedimentation, salinisation of soils and loss of biodiversity. The extent to which water resources development contributes to economic productivity is not usually appreciated, although all social and economic activities rely heavily on adequacy and quality of freshwater. In India, as populations and economic activities grow, many regions are rapidly reaching conditions of water scarcity, quality degradation or facing limits on economic development. It is in this light that the recommendation of Agenda 21 will have to be implemented.

The controversy of the Narmada dam as an example, highlights the issues involved of Dam building in India. Dams in India have no doubt contributed to significant improvement of lifestyle and have made the contribution to the overall development process in the rural India. Having seen the brighter side of dam building for over 50 years, today environmental considerations with respect to large dams have raised concerns over their ecological impact and the impact on water rights, individual and riparian.

3.5.5.1. Dams in India and their impacts

1. There are over 4,000 large dams in India. Three-quarters of these are in the states of Gujarat, Maharashtra and Madhya Pradesh and most are for irrigation to increase food production.

2. Indian food production rose from 50 to 200 million tonnes between 1950-1997; two thirds of this increase was from irrigation. The proportion of this increase attributable to large dams is though under dispute, is acceptable as Independent India has never imported food grains to feed its every growing population.

3. Before 1978, all dams were built without an Environmental Impact Assessment (EIA). EIA’s became statutory from 1994 onwards. The Narmada dam was well under full construction before scientific EIA could have been done.

4. Estimates of those displaced by construction of large dams in the last 50 years vary from 21-56 million people. These figures are inaccurate partly because an estimated

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412 In this light, the Ramsar Convention on the protection of wetlands needs to be highlighted. India is a party to the convention and has done little to implement its objectives by way of legislative ratification.

413 To improve the quality of water, better sanitation facilities are essential, Agenda 21 proposes a three fold objective namely, to maintain and protect the ecosystems of drainage basins world-wide; to provide safe drinking water supplied to all humanity; and to strengthen and localise water management programmes. All the above three objectives are necessarily interconnected. The entire issue of safe drinking water supplies must be viewed as an integral part of improving global environmental quality, enhancing living standards and health and providing for the sustainable development of the earth.

414 World Commission on Dams: Indian Case study report.
40% of the total number of people is said to be tribal people (adivasis) [Indigenous] who are hard to count.\footnote{If the number of displaced people is 50 million, then it is over three times the population of Australia and fifty times the number of Kosovo refugees.}

5. Less than 50% of the people displaced by these dams are rehabilitated. That is provided with new land of equal quality or given worthwhile jobs that provide an income that can be lived on.\footnote{Vijay Parangyepe and Walter Fernadis: Rehabilitation and Resettlement Policy in India, CEERA Library.}

6. Construction occurs under the Official Secrets Act and as such access and information is denied to those affected by proposed or current dams. Though many States now have passed the Freedom of Information Act, the right to know is not a full-fledged right yet.

7. Heavy silting has shortened the life of many dams. Poor maintenance and poor construction might see some of the major dams like the earliest Bhakra nangal and Hirakud out of service in another 15 years.\footnote{Rs 800 million (£10.7 billion) has been spent on dam projects in the last 50 years (in 2002 Rs/£). WCD report: India Case study.}

8. There have been 17 cases of earthquake tremors induced by large reservoirs in India. Though the exact reason for these earthquakes are not know, many believe that it is due to the large amount of water storage in these dams which aggravate seismic activitys.

9. There have been no reports into dams that have been completed. No reports on their achievements, whether they justified their cost or what there total cost, both in human and economic terms, were.

3.5.5.2. History of the Narmada:

Plans for damming the river at Gora in Gujarat surfaced as early as 1946. In fact, Prime Minister Jawaharlal Nehru laid the foundation for a 49.8-meter-high dam in 1961. After studying the new maps, the dam planners decided that a much larger dam would be more profitable. The only problem was hammering out an agreement with neighboring states (Madhya Pradesh and Maharashtra). In 1969, after years of negotiations attempting to agree on a feasible water-sharing formula, the Indian Government established the Narmada Water Disputes Tribunal. Ten years later, it announced its award. "The Narmada Water Disputes
Tribunal Award states that land should be made available to the oustees at least one year in advance before submergence”.

Before the Ministry of the Environment even cleared the Narmada Valley Development Projects in 1987, the World Bank sanctioned a loan of $450 million for the largest dam, the Sardar Sarovar, in 1985. In actuality, construction on the Sardar Sarovar dam site had continued sporadically since 1961, but began in earnest in 1988. Questions arose concerning the promises about resettlement and rehabilitation programs set up by the Government, so by 1986 each state had a people’s organization that addressed these concerns. Soon, these groups came together to form the Narmada Bachao Andolan (NBA), or, the Save the Narmada Movement.

In 1988, the NBA formally called for all work on the Narmada Valley Development Projects to be stopped. In September 1989, more than 50,000 people gathered in the valley from all over India to pledge to fight “destructive development.” A year later, thousands of villagers walked and boated to a small town in Madhya Pradesh to reiterate their pledge to drown rather than agree to move from their homes. Under intense pressure, the World Bank was forced to create an independent review committee, the Morse Commission, which published the Morse Report (a.k.a. Independent Review) in 1992. The report “endorsed all the main concerns raised by the Andolan [NBA]”. In author Arundhati Roy’s opinion “It is the most balanced, unbiased, yet damning indictment of the relationship between the Indian State and the World Bank.” Two months later, the Bank sent out the Pamela Cox Committee. It suggested exactly what the Morse Report advised against: “a sort of patchwork remedy to try and salvage the operation”.

Eventually, due to the international uproar created by the Report, the Bank withdrew from the Sardar Sarovar Project. In response, the Gujarati Government decided to raise $200 million and push ahead with the project.

While the Independent Review was being written and also after it was published, confrontations between villagers and authorities continued in the valley. After continued protests by the NBA, the Government charged yet another committee, the Five Member Group (FMG), to review the SSP. The FMG’s report endorsed the Morse Report’s concerns but it made no difference. Following a writ petition by the NBA in 1994 calling for a comprehensive review of the project, the Supreme Court of India stopped construction of the Sardar Sarovar

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418 www.narmada.org/sardarsarovar.html
dam in 1995. Tension in the area dissipated but soon the NBA’s attention shifted to two other Big Dams in Madhya Pradesh – the Narmada Sagar and the Maheshwar. Though these dams were nowhere near their projected heights, their impacts on the environment and the people of the valley were already apparent. The Government’s resettlement program for the displaced natives “continues to be one of callousness and broken promises”. In 1999, however, the Supreme Court allowed for the dam’s height to be raised to 88 meters (from 80 meters when building was halted in 1995). In October 2000, the Supreme Court issued a judgement to allow immediate construction of the Sardar Sarovar Dam to 90 meters. In addition, it allowed for the dam to be built up to its originally planned height of 138 meters. These decrees have “come from the Court despite major unresolved issues on resettlement, the environment, and the project’s costs and benefits”.

3.6. WATER POLLUTION: DIMENSIONS OF JUDICIAL INTERVENTION

There is a basic division of power between the center and the states in India, reflecting the federal nature of the Indian Constitution. The mandate of the Central Pollution Control Board (CPCB) is to set environmental standards for all plants in India, lay down ambient standards, and coordinate the activities of the State Pollution Control Boards (SPCBs). The implementation of environmental laws and their enforcement, however, are decentralized, and are the responsibility of the SPCBs. Anecdotal evidence suggests wide variations in enforcement across the states. In fact it has been argued that although states cannot compete by lowering environmental standards in order to attract new investment, they can get around this by lax enforcement.

Government initiatives for water resource management are outlined in National Water Policy, 1987, National Conservation Strategy and Policy Statement on Environment and Development, 1992, and Policy Statement for Abatement of Pollution, 1992. The strategy and policy statement prescribe command and control, technological zoning, fiscal incentives and use of economic instruments as mechanisms for water pollution control. The present approach to control water pollution in India is to use regularity instruments along with systems for monitoring the prescribed standards to achieve the government’s policy goals. These standards for ambient and point source discharges are set by various Acts of the government.

421 supra at n 109,
Compliance is mandatory and provisions for penalties are made in the Acts. The central and state pollution control boards monitor these. A legal framework and occasionally fiscal incentive schemes for implementation and compliance of the standards support the regulatory approach.

The two main pollution control statutes in India are the Water (Prevention and Control of Pollution) Act of 1974, and the Air (Prevention and Control of Pollution) Act, which came into being in 1981. Thereafter, Parliament passed the Environment (Protection) Act in 1986. This was designed to act as umbrella legislation for the environment, with responsibility for administering the new legislation falling on the Central and State Boards. The law prohibits the pollution of water bodies and requires that generators of effluent/ discharges get the prior consent of the SPCBs. This consent to operate must be renewed periodically.

SPCBs have the legal authority to conduct periodic inspections of plants to check whether they have the appropriate consent to operate, whether they have effluent treatment plants, take samples for analysis, etc. Some of these inspections are also programmed in response to public requests and litigation. The penalty for non-compliance is fines and imprisonment, but until 1988 the enforcement authority of the SPCBs was very weak. It was limited to criminal prosecution (with its attendant delays) and seeking injunctions to restrain polluters. Now, however, SPCBs have the power to close non-compliant factories or cut-off their water and electricity by administrative orders. The potential cost to the plants of non-compliance is thus not trivial, so there should be an incentive for plants to comply with the law. However, compliance depends on both monitoring and enforcement of the law by the SPCBs.

Since water pollution regulations have been on the books longest, and there are well-known and relatively inexpensive means of testing these emissions, this sub-section focuses on water pollution monitoring in this paper.

Also, we examine the impact of inspections on water pollution emissions to assess just how successful the laws are in their implementation.

It is often the case that organizations measure “success” in achieving their policy goals in terms of an increase in spending or the number of actions taken, rather than outcomes. For instance, assessing performance by counting the frequency or absolute number of inspections rather than the resulting environmental quality would be valid if, indeed, inspections have an impact on emissions. In the Indian context, despite a strong legal framework and the existence of a large bureaucracy for dealing with environmental regulation, the public perception is that implementation remains weak.

Given the penalties in force for non-compliance in India and keeping in mind the extent of the SPCBs’ powers, it should be emphasized that the impact of inspections on compliance will be only as strong as the threat of enforcement and punishment faced by the plant. In an environment of corrupt local inspectors or bureaucratic procedures that hamstring action against errant behavior, inspections alone are unlikely to be effective. Also, the reality is that resource constraints at the state level mean that environmental management often degenerates into crisis management. Inspections are undertaken at the time that operating consent is granted, and thereafter usually only in response to complaints, accidents or other emergencies.

422 The CPCB and the SPCB were established in 1974 by the passing of the Water Act, 1974.
423 For more see the Consent mechanism under the Water Act, 1974.
424 The MoEF’s implementation of a monitoring system was quite aggressive on paper. In 1977, India had 18 monitoring stations for water. By 1992, there were 480 water stations, including 51 from the Global Environmental Monitoring System (GEMS).
In *M/s Delhi Bottling case*, the Court showed judicious thinking and strictly following the procedure turned a blind eye toward the ongoing environmental degradation. The Company was carrying on the business of preparation of soft drinks under the trade name Gold Spot, and Limca, was discharging trade effluents, which filled in the river Yamuna. Though the Company had duly obtained the consent under the Water Act, they had failed to establish a treatment plant in the factory in spite of repeated notices issued by the PCB. The PCB on its part failed to adhere to the sampling procedure so established by the Water Act, wherein samples of such trade effluents must be taken in two containers and the sample must be tested in a recognized Government lab. Failing this procedure, the High Court surprisingly dropped the charges against the company. The Court’s reasoning was that the samples were not taken in strict compliance with Sec. 21 and are inadmissible in evidence. Therefore the Board has not proved that the company was violating its consent orders. Given the clear language of the statute, and the Court’s determination of facts, the ruling was logical. But at the same time it should be noted that, the company did not challenge the results of the analyses itself. Also, the requirement that polluters be given notice before the Board may take a sample gives the polluters the opportunity to temporarily reduce or cease releasing pollutants during the period the sample is taken. In addition to this, the Court considered Sec. 33(1) but ignored Sec. 33(2), which empowers a court to make such an order as it may deem fit, upon receiving a Sec. 33 application from the Board. Therefore the Delhi Court could have ordered the Magistrate to retain jurisdiction of the case until samples are taken in compliance of the Water Act.

In *M. C Mehta v Union of India* also known as the Kanpur Tanneries or Ganga Pollution case is among the most significant water pollution case. The opening part of the judgment discusses the various legal provisions and the legal duties of Municipal bodies and Pollution

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426 *M/s Delhi Bottling Co Pvt. Ltd v Central Board for the Prevention and Control of Water Pollution* AIR 1986 Del. 152. This case is a black mark on the Judiciary, which otherwise has been hailed as the champion of the people’s cause.

427 According to sec. 21 of the Water Act, the PCB officials must give at least 15 days notice before taking a legal sample, moreover the sample must be taken in the presence of the occupier, and one container of the sample must be handed over to the occupier as a matter of fair procedure.

428 The Court appreciates the evidence of the level of pollution. It is important to note here the effective strategies adopted by M. C Mehta which seems to be deciding factors for his success. All the cases involve detailed scientific investigation and the reports are produced before the Court as evidence, so well employed is his use of explanatory tabular form to highlight the magnitude of environmental damage. So well employed is hi use of facts and figures, that the court is struck by the severity of the problem and feels compelled to interfere. Another noteworthy strategy adopted in these cases is offering the court feasible alternatives which balance preservation of the environment with development of industries.

429 AIR 1988 SC 1037.
Control Boards. In this case, the Court came down heavily on the Nagar Mahapalikas. The Court emphasized that it was the Municipality of Kanpur that has the major responsibility for the pollution of the river near Kanpur city. The Supreme Court in their earlier order on Yamuna Pollution had asked the Ministry of Environment and Forests, New Delhi to apprise them the necessary steps taken by the Government on cleaning river Yamuna.\(^{430}\) In the affidavit the Deputy Secretary of MoEF stated that a committee constituted for this purpose had reiterated that 2005 should be treated as the cut off point for cleaning of Yamuna in Delhi. In the Ganga pollution case the Court asked the Central Government to formulate a million dollar plan to clean up the river. Though the efforts of the court were successful in bringing the Ganga Action Plan, the ground realities in that even after 12 years of this judgment and action plan, Ganga remains one of the worst polluted rivers in India. This case is significant as it was the first of the so many cases, which M C Mehta won and brought about a revolution in the Indian Judiciary through his cases and their success stories.

Following and monitoring the cleanliness of the river in 1997, in the Tanneries case\(^ {431}\) the Court, particularly concerned with the pollution from tanneries across the state where the river Ganga flows stated that ‘it should be remembered that the effluent discharged from a tannery is ten times more noxious when compared with the domestic sewage water which flows into the river from any urban areas on its bank’. The Court directed the relocation of tanneries to a complex and also directed the Pollution Control Boards to examine the possibility of setting up of common effluent treatment plants for the Calcutta tanneries. The Court in this case had to weigh the loss of livelihood of the many workers working in these tanneries. Over emphasis on societal interest over Individual interest the Court gave a landmark judgment.

A situation of total apathy of the Government in the city of Cuttack, which had led to a very acute water pollution problem, was also in these cases.\(^ {432}\) The city of Cuttack was under the grip of a severe problem of water pollution ranging from sewage water clogging, direct inflow of sewage into the river to non-existence of a sewage treatment plant, thereby contaminating water and resulting in various types of water-borne diseases. During the course of the hearing of the petition, the Court noticed that not a single department of the State Government was willing to

\(^{431}\) M. C Mehta v Union of India, 1997 (2) SCC 411.
\(^{432}\) M C Mehta, series of Orders in the Tanneries case.
take any responsibility in the matter and were conveniently shifting the burden to another
department. The Court held that the city of Cuttack, with its historic heritage, was in the centre
of a huge water pollution crisis on account of the inaction of the State in setting up of a waste
treatment plant and the sewage water directly doing into the river causing serious health and
sanitation problem.

In Re. Bhavani river case,\textsuperscript{433} the Supreme Court directed the various Pollution Control Boards
to ensure proper storage of effluents in lagoons and for proper treatment and disposal of the
treated effluent. This case considered the untreated disposal of effluents into the river Bhavani.
The Court strongly opined that the directions/guidelines issued by the PCB in respect of
protection of environment are to be adhered to and in case of non-adherence, such industries
are liable to be shut down.

In the now famous Kamal Nath case\textsuperscript{434}, the Supreme Court held that the notion that the public
had right to expect certain land and natural areas to retain their natural characteristics was
finding its way into the law of the land. The \textit{doctrine of public trust}, rests on the principle that
certain resources like air, seas, waters and the forests have such a great importance to the
people as a whole that it would be wholly unjustified to make them a subject of private
ownership. The doctrine enjoins upon the government to protect the resources for the
enjoyment of the general public rather than to permit their use for private ownership or
commercial purpose. The protection of ecological values is amongst the purposes of public
trusts. The state is the trustee of all natural resources which are by nature meant for public use
and enjoyment. It is under a legal duty to protect natural resources. The aesthetic use and the
pristine glory of the natural resources, the environment and the eco-system of the country
cannot be permitted to be eroded for private, commercial or any other use unless the courts find
it necessary, in good faith, for the public good and in public interest to encroach upon the said
resources. Areas, which are ecologically fragile and full of scenic beauty, shall not be permitted
to be converted into private ownership for commercial gains. The illegal construction and
callous interference with the natural flow of river Beas has degraded the environment. It is now
settled law that one who pollutes the environment must pay to reverse the damage caused by

\textsuperscript{433} \textit{AIR} 1998 SC 2059.
\textsuperscript{434} \textit{M. C Mehta v Kamal Nath} 1997 (1) SCC 388.
his acts. The polluter pays principle was upheld in the present case.\textsuperscript{435} The Court directed the Himachal Pradesh PCB to inspect the motel premises, its treatment facilities and to re-direct the course of the river.

In \textit{Vellore Citizens Welfare Forum case}\textsuperscript{436}, the Court held that even a major foreign exchange earner like the leather industry could not have the right to destroy ecology, degrade the environment and pose a health hazard. It cannot be permitted to expand or even to continue unless it tackles the problem of pollution created by the said industry. The ‘polluter pays principle and precautionary principles’ are the law of the land.\textsuperscript{437} The polluting industries were made absolutely liable to compensate for the harm caused by them to villagers in the affected area, to the soil and to the underground water and hence they were directed to take all necessary measures to remove sludge and other pollutants lying in the affected area. An authority was constituted by the Apex Court to investigate and take mitigating steps in reducing the ecological damage caused by the tanneries in this area. The Authority could direct the closure of the industry owned managed by polluter in case that industry evaded or refused to pay compensation. This shall be in addition to the recovery, as arrears of land revenue. A ‘pollution fine’ of Rs. 10,000 was imposed on each tanneries. The PCB was directed to establish a ‘common effluent treatment’ facility and to close down any tanneries, which fails to obtain the consent of the PCB under the Water Act. The decision given in the \textit{Vellore citizen’s case} shows the potential of controlling water pollution through the tort of nuisance. It also reveals the power of the judiciary to compensate victims where their water rights have been affected.

In \textit{Hamid Khan v. State},\textsuperscript{438} the State of M.P. had provided tube-wells for the supply of drinking water to certain villages. Before digging the tube-wells, certain tests had to be performed to determine the potability of the water. There was no test for fluoride content among the tests prescribed. Due to the high fluoride content of the water, a number of people had contracted skeletal and dental fluorosis. This matter was brought to the notice of the Court through this PIL. The relief in the judgement was based on the duties imposed on the state under various

\textsuperscript{435} In the same case in 2002 the Supreme Court imposed an exemplary damages to the tune of Rs. 10 lakh on Kamal Nath for the diversion of the river and reserved its right to impose fine on ‘the polluter pays principle’. This is for the first time in the Country’s environmental jurisprudence that the Judiciary imposed fine for re-doing the environmental wrong.

\textsuperscript{436} JT 1996 (7) SC 375.

\textsuperscript{437} The Court here interpreted the Rio Declaration and Agenda 21. While implementing the International Environmental law Principles, the Court enforces them for applicability as a Policy in the domestic circuit.

\textsuperscript{438} AIR 1997 MP 191.
articles of our Constitution. The Court held that, under Art. 47 of the Constitution of India, it was the responsibility of the State to raise the level of nutrition and the standard of living of its people and the improvement of public health. It is incumbent on State to improve the health of public providing unpolluted drinking water. 439

In another unique case of allegation of water pollution and also the inhuman act of killing animals for human consumption, the Court came down heavily on the Government for not controlling the means and ways of slaughtering animals. Idgah Slaughter house 440 was the biggest slaughterhouse in Asia, wherein nearly 1200 to 1500 animals were slaughtered every day. The slaughterhouse discharged untreated blood to the amount of 13,000 litres into the Municipal sewer. The slaughterhouse was also alleged to have unhygienic conditions for slaughter and sale and the animals brought into the slaughterhouse were inspected on bare eye for their health and standard condition.

Lack of coordination between Central Board and State Board in mitigating the problem of water pollution came to surface in Travancore Cochin Chemicals Ltd. case 441. While the State Board ordered the chemical factory to install a treatment plant, the Central Board had advised it to wait for two months for testing of new technology before installing a plant. The Kerala High Court criticized the discrepant approaches.

Case law development under the Water Act has shown the need for avoiding excessive formalism and consolidating horizontal coordination. Sample taking, inquiry, notice, appreciation of evidence, issuing of appropriate orders, prosecution and enforcement of orders of closures are various links of the same legal process. Every stage of action should be informed and sensitized by the policy of public welfare underlying the legislation. Unfortunately, this did not occur in some cases. In Executive Apparel Processors 442 the Karnataka High Court held that the State Board had no power to get its order of closure

439 A fear that one of these days, our rivers will be so polluted that they will catch fire, as the rivers in Cleveland (Cuyahoga) and Pittsburgh (Allegheny) used to do periodically until they embarked on a massive clean-up drive.
440 Buffalo Traders Association v. Maneka Gandhi 66 (1997) Delhi Law Times 439 (SC) The slaughter house was permitted to function provided it complied with certain conditions laid down by the Court. A certain limit was placed on the number of animals that could be slaughtered. Also buffaloes, cows, and bulls were prohibited from being slaughtered. The slaughter houses had to comply with certain environmental standards. MCD was also directed to stop illegal slaughtering and construct modern slaughter houses.
executed through Deputy Commissioner, but only could initiate penalty proceedings. *Travancore Cochin Chemicals Ltd.* case involved a lenient approach of the State Board in giving consent to discharge effluents to Periyar River, its failure to ensure compliance with the conditions of consent for eight years and inaction to respond to the new application of the company. The Kerala High Court adopted a formalistic reasoning that since the four-month’s waiting period was not interfered by the Board, the company had an unconditional right to discharge into the river. Another example of formalistic reasoning is a session court’s order of quashing prosecution of the officials of a company on the ground that there was error in description of company’s name. It is only after a lapse of 16 years that the prosecution was revived after Supreme Court’s decision.\(^\text{443}\)

In contrast, there are pro-environment judgments that emphasize strict enforcement of the Water Act. The doctrines of absolute liability and public trust laid down in *Ganga Pollution* cases, *Bichhri* case and *Vellore Citizens Forum* case have gone a long way towards sternly dealing with water pollution problem.\(^\text{444}\) In *Pondicherry Papers Ltd.*\(^\text{445}\) the Madras High Court upheld the Magistrate’s power of issuing injunction restraining a paper company from discharging effluent until the company constructed a water treatment plant. The Allahabad High Court in *Shadilal Enterprises*\(^\text{446}\) adopted similar approach. In *Kohinoor Dyeing and Printing Works*\(^\text{447}\) the Magistrate’s order on the company to desist from causing pollution until the hearing of criminal case was upheld by the Gujarat High Court. In *Narula Dyeing and Printing Works*,\(^\text{448}\) Gujarat High Court upheld the state government’s closure order on a factory that defied for more than a decade the condition imposed under the consent order to establish a treatment plant within six months from the date of the consent order. Regarding penal liability of managers of companies, which committed offences under the Water Act, a rigid approach against avoiding escape from liability, is adopted in a number of cases.\(^\text{449}\)

\(^{443}\) *U. P. Pollution Control Board v. Mohan Meakins Ltd.* 2000 (2) SCALE 532.


It can be distinctly seen that success in prevention and control of water pollution has largely depended on concerted application of various facets of the Act and co-ordination amidst various agencies performing functions assigned under the Act.

3.6.1. **Municipal Statutes**

One big series of potential pollution of river water is the discharge of sewage into them by the Municipalities. The Municipal Statutes therefore contain provisions that sewage is not to be discharged into rivers unless it is so treated as not to affect prejudicially the purity and quality of the water into which it is discharged. If such a restriction can be imposed on the public authorities, there is no reason why factories and private persons should not also be similarly restricted. Whenever the municipal authorities are guilty of lapses in the compliance with these salutary provisions, every one who is affected by pollution of water would have a cause of action against the municipality. Since Municipalities are public authorities, relief against them can be had by way of writ petition filed under Art 226 of the Constitution. A writ of mandamus can be issued to a Municipality compelling it to do its duty in this respect.

3.6.2. **Contamination of a Public Spring or a Reservoir**

The contamination of a public spring like a well or a reservoir like a municipal water tank can be dealt with by Sec. 277 of India Penal Code 1860. Corruption or fouling of the water of a public spring or a reservoir so as to render it less fit for the purpose for which it is used is punishable under this section. It is to be noted that a prohibition against corruption or fouling of a public spring or a reservoir is directed against all. Therefore, not only the users of such water but also the managers and the custodians of such waters would be liable if they act against this statutory prohibition. Of course, the words are: ‘whoever voluntarily corrupts or fouls the water of any public spring or any reservoir’. This will perhaps mean that positive acts or willful action is more likely to be covered by sec. 277, IPC rather than mere neglect to preserve the

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451 Rampal v State of Rajasthan [unreported].
purity of the water. Further, this section will not apply to flowing water in the streams and rivers, and other surface waters resulting from rains.

3.7. INTERLINKING OF INDIAN RIVERS: EVALUATING THE POSSIBLE SOLUTION

Interlinking major rivers of the country seems to appeal to the popular imagination. This project promises to be the most massive and most controversial 'development-infrastructure' project that might ever be undertaken in the world. Despite this, Parliament of India has not witnessed any debate, with all major political parties deciding to back the ruling coalition on this project. Proponents of interlinking must consider that from the angle of good governance and management, an explicit definition of "public interest" or "public good" is needed and this be used to identify the primary stakeholders and defining their losing or gaining stake in a massive 'development' project. Notwithstanding that the proposal was mooted by the Supreme Court and seconded by the highest office in the land, such matters should always be subject to extensive and intensive public debate before political or economic positions are taken or irreversible financial commitments are made. The ethics of a proposal to spend enormous amounts of borrowed funds for mega-projects that have glossed-over negative impacts and inequitable benefits is questionable.  

Interlinking or networking of rivers entails construction of dams and canals and other connected hydraulic engineering works for mass transfer of water across river basins. Basically, the scheme is to convey floodwater in the Ganga and Brahmaputra river basins to the arid and semi-arid areas of Rajasthan and Madhya Pradesh, and to the peninsular rivers of south India. To achieve this there are basically three "options". They are the "canal option" to construct lengthy canals, the "tunnel option" to convey water under mountains, and the "pumping option" to pump water over mountains. A combination of these options is possible, but such combinations would not be clear alternatives to the general solution of mass transfer of water across river basins.

Networking of rivers: Issues

It is true that the proposal for interlinking of rivers is decades old, but at the time when Sri K.L. Rao 453 envisaged the project, rivers had more water and were not polluted with industrial wastes, the state of deforestation was considerably less and floods were not as severe or frequent as today, India’s population was substantially less.

452 S G Vombatkere Interlinking: Needs to be publicly debated - III : http://www.indiatogether.org/2003/feb/wtr-sgvintlink03.htm. He further states that Proponents of interlinking must also consider a very important factor -- the nexus between certain politicians, bureaucrats and contractors. This lobby does not operate with the public interest in mind. For this lobby, larger projects are better, and the proposal estimated at over Rs.5 lakh crores is a veritable gold mine.

displacement, resettlement and rehabilitation of project-affected people was not a factor that was seriously considered, and people of the lower socio-economic groups were not as aware of their rights and did not agitate for them as they do today.

The current situation is entirely different. Thus, to apply a proposed solution of yesteryears to the situation of today and extrapolate it to tomorrow without examining clear alternatives would not only be financially ill-advised but also be undemocratic and politically unwise at a time when physical displacement, social disruption, and economic and environmental degradation are causing more people to question decisions taken unilaterally by people in power who determine policy. There may not be doubt as to the technological feasibility of networking rivers or the capability of India’s engineers, but all technology has a cost that is not only in terms of money but is also social and environmental.

Riparian claims among the States
As far as inter-State relations within the Indian Union are concerned, let us take the on-going case of water sharing of River Cauvery between Karnataka (upper riparian state) and Tamil Nadu (lower). The Supreme Court has clearly ruled that Karnataka has to release water to Tamil Nadu and cannot keep the water for itself. Further, the canals would convey water through many neighbouring states and each state on the way is sure to claim a portion of the water or cash in lieu, even if they admit that their river carries “surplus” water. Without taking this factor into consideration and conducting detailed studies, it is not possible to arrive at any rational calculation as to how much water is to be diverted in which month from where, stored where and conveyed where, how much is to be taken off enroute and where, etc.

These questions, which should lead to formulating preliminary system design assumptions have not been even considered at this time, even though the Supreme Court has directed Government of India to constitute a Task Force and complete the task in 10 years.

River pollution
Annual floods flush industrial and municipal pollution in the Ganga down to the ocean. Reducing the flow in the Ganga by diversion will increase the concentration of pollution in the river. A live example is the Yamuna, from which Haryana and Delhi draw so much water that it barely flows after Delhi and the water quality at Delhi is so poor as to be positively poisonous. It is relevant to note that the expensive project to clean the Ganga has not succeeded even with annual flooding. This is not to argue that pollution of river water is inherent and may never be checked at source, but that this factor is yet another that needs to be included in the legitimacy check for the project.

Land acquisition
How do you consider the acquisition of 8000 sq km of land when acquisition of land even in acres is a vexed issue that takes years? Even if fresh legislation makes it possible within a short period, its implementation will cause untold misery and injustice to the displaced people in obtaining compensation due to systemic corruption. Besides, land for resettlement is mostly not available.

In sum for this section of the series, we must scrutinize closely and guard against our tendencies to address the political challenges of progressive policy and lawmaking for resolution of conflicts over natural resources with technology-heavy solutions.

Naturally, the cost of the alternative needs to be realistically estimated, and therefore a cost-benefit (C-B) analysis needs to be carried out for the options of:

1. River interlinking or networking (with its several sub-options such as pumping, tunnelling or contour canals and various combinations), versus
2. Water harvesting by local, decentralized effort and formulation of a rational agricultural policy along with controlling wastage and over-consumption.  

The River Linking Project is in fact a river privatisation project says Vandana Shiva, noted environmentalist. It is a fraud on the Indian people for a number of reasons.  

1. The government has not clarified where the US$ 200 billion dollars needed for the mega project will come from. The Union Water Secretary has referred to raising finances from private sources. Whether the investment will come from the World Bank and the Asian Development Bank (ADB) or from water multinationals such as Bechtel, Suez and Vivendi; privatization of water and our rivers will be the inevitable results.  

2. Riparian communities have not been consulted in announcing this mega project even though it is their rights that the project undermines.  

3. Rivers that are already dry and in deficit due to ecological devastation and dams and diversion are being treated as “Surplus”.  

4. Projects that have already been planned or executed are being shown as “New” projects under river linking  

5. The ecological and social costs of the new dams and diversion have not been assessed.  

6. Sustainable and equitable alternatives for overcoming the policy induced water crisis have not been explored.  

The idea of interlinking of rivers has been deliberated over the decades in India. This was recently brought about in the case of N.Nandhivarman, Dravida Peravai General Secretary v. Union of India and others. The Court ordered on the following issues:  

1. The Apex Court asked the Government to direct authorities to initiate the implementation of this project in a phased manner and with a time frame.  

2. The feasibility reports prepared by the National Water Development Agency under Ministry of Water Resources must be made public along with the reasons for long consumption of time in initiating this project.  

3. The Court also sought details of the total funds spent by Central and all State Governments on flood and drought relief.  

The petitioner states that interlinking Ganga and Cauvery was first mooted in 1972 by then Union Minister for Irrigation Dr. K. L. Rao, which envisaged 2640-kilometer long Ganga Cauvery link. Thereafter in 1974, Captain Dastur suggested a canal known as Garland canal. In July 1982, National Water Development Agency was created to carry out surveys and prepare feasibility reports. In September 1987, the National Water Policy stated that its prime goal is to

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455 For more see Dr. Vandana Shiva Water Peace VS Water Wars http://vshiva.net/articles/water_peace_wars.htm visited on 4-11-03.  

456 http://vshiva.net/press%20release/water_public_good_sept03.htm visited on 4/11/03.  

interlink national rivers. Over all these years none of the feasibility report is made public nor the interlinking of rivers has been undertaken even in a phased manner.

The National Water Development agency is only collecting the datas offered by various state governments and compiling them into reports. Even to do that, the agency seems to be having 2010 as the time frame to complete all feasibility studies. Moreover, like previous proposals this may also be jettisoned citing similar reasons or fresh excuses. Thereafter after 2010, India may go for global tenders to make a study of this project and all will be back to square one in 21st century too. In view of this, petitioner had to pray before the Court to find out what is going to ultimately happen to this project.

The project prepared by the National Water Development Agency, the judgment says, has two components namely Himalayan Rivers Development Component and Peninsular Rivers Development component.

In December 2002, the Supreme Court ordered to take up the task of interlinking major rivers of the country. The National Water Development Agency (NWDA) has, after carrying out detailed studies, identified 30 links for the preparation of feasibility reports under the National Perspective Plan, 1980 and has prepared feasibility reports of 6 such links.

With a view to bring about a consensus among the states and provide guidance on norms of appraisal of individual projects and modalities for project funding etc. the Central Government set up a TASK FORCE\(^459\) on 13\(^{th}\) December, 2002.

The terms of reference of the Task Force will be to:

1. Provide guidance on norms of individual projects in respect of economic viability, socio-economic impacts, environmental impacts and preparation of resettlement plans;
2. Devise suitable mechanisms for bringing about speedy consensus amongst the States;
3. Prioritize the different project components for the preparation of Detailed Project Reports and implementation;
4. Propose suitable organizational structure for implementing the project;
5. Consider various modalities for project funding; and
6. Consider international dimensions that may be involved in some project components.

\(^{458}\)Also see *Re Net-working of Rivers* Writ petition no 512/2002, date: 31 October 2002.

\(^{459}\)The task force will comprise of the following members: Shri Suresh Prabhu, Member of Parliament, Lok Sabha, Chairman Shri C.C. Patel, Vice-Chairman; and Dr. C.D. Thatte, Member-Secretary.
As per international water availability standards, India is water-stressed today and will be water-scarce tomorrow. Without constitutional amendment providing for transfer of legislative power on water from State List to Concurrent List, it is not possible to go ahead with the project since land acquisition, rehabilitation and various other burdens upon the states in the course of implementation are likely to strain federal structure.

Presently, regarding flood control also, a number of state legislations are in effect with definite policies and methods suitable to the local conditions. Although the Central Government has been extending its assistance through financial grants, deployment of paramilitary forces for rescue and supply of infra-structural facilities, it has not invoked the provisions of the River Board Act. It has also not resorted to Art. 249 or 252 for enacting any central legislation on the subject. But it has competence to apply the mechanism of administrative directions under Arts. 256 and 257. The state legislations provide for restricting the human activities in flood plain zoning, prohibit obstruction to rivers, compulsory evacuation of people and property from areas threatened or affected by flood, requisition of labour, boats or vehicles and requisition of land for executing flood control schemes. Long term solutions like afforestation and rain water harvesting have not been contemplated under state legislations. Inter-state cooperation in situations of flood is prevalent in ad hoc manner. Integrated approach requires more systematic cooperation in this sphere.

3.8. INTERNATIONAL LAW

International law has long addressed issues relating to freshwater resources, primarily in the transnational context. Over 200 river basins in the world are shared by more than one country. Many rivers, such as the Amazon, Nile, Rhine and Ganga involve more than two Nations. These shared watercourses can give rise to significant bilateral or multilateral disputes.

460 See the Assam Embankment and Drainage Act, 1954; Andhra Pradesh Irrigation Act, 1955; Bengal Embankment Act, 1882; Bihar Public Irrigation and Flood Protection Act, 1947; Bombay Irrigation Act, 1879; Madras Irrigation Act, 1955; Mysore Irrigation Act, 1965; Orissa Hydro-electric Projects and Flood Control Works Act, 1961; Uttar Pradesh Flood Emergency Powers Evacuation and Requisition Act, 1951; also see, Alice Jacob and K.C. Joshi, Law relating to Flood Control in India, (Indian Law Institute, Bombay: N.M. Tripathi, 1971).
particularly in a time of scarcity. Such disputes have given rise to a relatively rich body of customary law as well as numerous treaties and other instruments.\textsuperscript{461}

Under the doctrine of territorial sovereignty, States retain total control over all water in or flowing through their territory. Thus upstream States are free to use the water any ways they want, without regard to the interests of downstream States. The doctrine is a specific application of the general concept of State sovereignty.\textsuperscript{462} The jurisdiction of the nation within its own territory is necessarily exclusive and absolute. It is susceptible to no limitation not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction, and an investment of that sovereignty to the same extent in that power which could impose such restriction.\textsuperscript{463} This is a clear contradiction to the fact that international environmental principles obligate state to take measures so as not to cause transboundary pollution\textsuperscript{464}, and to respect and conserve natural resources and share the same with the lower riparian State.

**3.8.1. The Helsinki Rules**

A relatively well developed body of international rules to prevent pollution of fresh water resources [including river, lakes, ground waters and reservoirs] is set forth in bilateral and regional treaties, as well as the guidelines in non-binding instruments adopted by UNEP and other international organizations, including those in the non-governmental sector.\textsuperscript{465} These have emerged for geographical and political reasons: nearly one half of the world’s river basins are shared by two or more countries and although they comprise only about three percent of the volume of water in the planet, they provide the vast majority of the supply used in human activity.

\textsuperscript{461} According to the 1997 UN Fresh water Assessment, humans are currently using about 'half the 12,500 cubic kilometers of water that is readily available'. Yet the population is expected to double in the next 50 years.

\textsuperscript{462} UN General Assembly Resolution 626 [VII] stipulates that States may exercise their rights freely to use and to exploit their natural wealth and resources ‘whenever deemed desirable by them for their own progress and economic development’. This doctrine is also known as the Harmon Doctrine, named after the U S Attorney General who issued the following opinion in a dispute with Mexico over diversions of the Rio Grande River.

\textsuperscript{463} David Hunter, p. 819.

\textsuperscript{464} ESPOO 1991.

\textsuperscript{465} There are quite a few forum, like the World Water Commission and others which evolve policies at different stages.
The adoption in 1966 of the International Law Association’s non-binding Helsinki Rules on the Uses of the Water of International Rivers marked an important further development of international efforts to manage and protect freshwaters. In this case, the effort addressed rivers and international drainage basins. The Helsinki Rules were not the first attempt by international lawyer to consider this question, but reflected a committed effort to identify, in a comprehensive manner, the right and obligations of states. The Rules govern the use of the waters of an international drainage basin except as otherwise provided by applicable treaty or custom, and provide that each basin state is entitled to ‘a reasonable and equitable share in the beneficial use’ of the waters in accordance with the relevant factors in each case. 466 States are obliged to prevent new forms of water pollution or any increase in the degree of existing pollution which would cause ‘substantial injury’ in the territory of other basin states, and to take all reasonable measures to abate existing pollution.467

Violation of these obligations creates a responsibility for the injury caused or requires negotiations to reach an equitable settlement. Since the Helsinki Rules the ILA has also adopted non-binding Rules on Water Pollution in an International Drainage Basin and Rules on International Ground Waters.468 The Ground Waters Rules call on states to prevent or abate the pollution of international groundwater ‘in accordance with international law applicable to existing, new, increased and highly dangerous pollution’.

3.8.2. 1992 Convention on the Protection and Use of Transboundary Water Courses and International Lakes

This Convention draws heavily from the 1980 UN/ECE Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary pollution, which called for a range of new approaches to the protective regulation of water courses, including standardization of water quality, the use of legal and administrative measures and suitable economic incentives and the adoption as far as possible of the general principle that ‘the direct or indirect costs attributable to pollution should be borne by the polluter’.

466 Philip Sands, p. 349, Art. III, IV and V(1).
467 Art X(1). Water pollution is defined as ‘any detrimental change resulting from human conduct in the natural composition, content or quality’ of waters: Art. IX.
468 Seoul, 30 August 1986, 62 ILA 251 [1987].
The Convention encourages the adoption of preventive measures at source, prohibits the transfer of pollution to other parts of the environment, and calls for measures to be guided by the application of the precautionary and polluter pays principles. The Convention does not preclude other bilateral and multilateral agreements and allows parties to adopt and implement more stringent measures than those set out in the Convention. 469

The Convention signals efforts to regulate directly particular industries and activities, requiring each party to set limits for discharge for specific industries from which hazardous substances derive, based on ‘best available technology’. The Guidelines in Annex III require parties to develop general water quality objectives and criteria, 470 and provide for monitoring, research and development, exchange of information, international efforts to elaborate rules on responsibility and liability. 471

Many consider the management of fresh water to be the single greatest environmental challenge facing the international community, in large part because pollution and overuse have contributed to the unsanitary conditions leading to the world’s most serious health problems. Although the main emphasis in the past has been on developing cooperative international arrangements to govern use, in recent years the attention given to conservation has increased markedly and recent treaties such as the 1992 Watercourse Convention and other instruments such as the ILCs Draft Articles do reflect the widely held view that states are no longer entitled, as a matter of international law, to allow activities to take place which cause significant pollution to shared fresh water resources. 472

CONCLUSION

It is clear enough that if the National Water Policy were being drafted today, it would need to show a much greater awareness of the present climate of thinking in regard to many matters, such as environmental and ecological issues; sustainable development; a participatory approach to planning; human rights; the need to remove women’s disability and empower them; the importance of local water harvesting and water shed development activities; the rediscovery of

469 Art. 2 (6) and (8).
470 Art. 3(2).
471 Arts. 10 to 12.
value in traditional systems of water harvesting and management; the promotion of a consciousness of scarcity and of the crucial importance of water management and so on. The recognition of access to water as a basic human right, and a profound concern for equity and social justice, will have to be the governing considerations in redrafting the national water policy.\textsuperscript{473}

\textsuperscript{472} Philip Sands, p. 365.
\textsuperscript{473} The US passed the Safe Drinking Water Act way back in 1974. The Act tries to ensure standards for acceptable levels of contaminants in drinking water, to allow enforcement of those standards by the State, and to protect drinking water supplies from underground injection. W Jack Grosse, Natural Resources, Wildlife and Habitat, 2\textsuperscript{nd} Edition, Oleana Publication, INC, Dobbs Ferry, New York., p. 4.
3.9. Ground water: Over Exploited Resource

It is difficult to overemphasize the importance of water, yet many people take it for granted. As long as it flows out of the tap in a relatively unadulterated form and is not noticeably objectionable, most people give very little thought to where the water comes from, how it gets into their homes, or what impact changing usage will have on their communities.\(^4\)

Equity considerations are generally a major point of tension as management needs emerge. Rapid unrestricted development of groundwater has reduced poverty by giving the poor access to a key resource for production. Groundwater management involves some of the most complex and socially challenging sets of issues facing India in the 21st century. Furthermore, how those issues are resolved will affect both the environment and the day-to-day life of most people living in rural and urban areas. Groundwater is an invisible resource. The pattern of unrestricted development, however, is the primary cause of over-extraction and quality problems now emerging in many parts of the world. As groundwater problems grow, marginal populations are often the first affected. Water level declines, for example, have the largest economic impact on individuals who are unable to afford deeper wells – i.e. the poor. As a result, both the dynamics of the resource base and the services it produces are often poorly understood.

Ground water is also probably India’s most valuable and perhaps its most vulnerable water resource.\(^5\) Beyond irrigation, ground water is the major source of drinking water for numerous cities and rural communities and serves as the main source of clean water for industry as well. Long viewed as an unlimited ‘renewable’ resource, threats to ground water supplies are becoming increasingly evident. Dropping water tables are not the only concern, quality issues are also growing. Salinity, fluorides, nitrates and the presence of pathogenic organisms are major concerns in many sections of the country. Excessive tapping of ground water in urban cities has only added to the drinking water problems in the country. Saline intrusion affects the ground water under many coastal cities. Little is now being done to address emerging ground water problems and calls for more effective management are common.\(^6\) A model bill for regulating ground water use was circulated as early as 1971 and an updated

\(^4\) Jeffrey S Askley and Zacharry A Smith, Ground Water Management in the West, University of Nebraska Press;, Lincoln and London.

\(^5\) India has been ranked a poor 120th for its water quality in the United Nations system-wide evaluation of global water resources today. Only Morocco and Belgium are ranked lower. India also ranks 133rd, among 180 countries, for its poor water availability of 1,880 cubic metres per person annually. Further, India's quality indicator value stands at a pathetic (+)1.31 against first-ranked Finland's 1.85. The evaluation, released on the eve of the third world forum on water to be held later this month in Kyoto, Japan, ranks 122 countries according to the quality of their water as well as their ability and commitment to improve the situation. Belgium is considered to be the worst due to the low quantity and quality of its groundwater which is worsened by heavy pollution and poor treatment of waste water. Morocco, India, Jordan, Sudan, Nigeria and Burkina Faso rank just above Belgium. The list of countries with the best water quality is headed by Finland followed by Canada, New Zealand, United Kingdom, Japan and Norway. Press Trust of India March 6, 2003.

\(^6\) Marcus Moench; Approaches to Ground Water Management: To control or Enable? Economic and Political Weekly, Sept. 24, 1994 A-135.
version was again distributed in 1992. Draft bills have been presented in legislatures of several states including Tamil Nadu and Karnataka but have never been enacted. So far, only Gujarat and Andhra Pradesh have actually addressed this alarming depletion of natural resource.

**Development of Law**

The technological changes that facilitated rapid expansion of ground water pumping and the development of irrigated agriculture in the West put pressure on the legal doctrines governing ground water use and ownership. The four primary legal doctrines governing water use are the Common law [English law], rule of absolute ownership, the American rule of reasonable use; the correlative rights doctrine, and the doctrine of prior appropriation.

3.9.1. **Common Law Approach or the absolute ownership doctrine**

Ground water development in India, unfortunately still lies in the hands of private individuals even though legislations are being enacted to regulate its extraction and use. This is mainly so in the sphere of ground water rights.

Common law implies ground water as an essential attribute to land. In fact, ground water is recognized as a *chattel* attached to the land property with the rights therein belonging to the landowner on the basis of the *ad coeleum* principle. It is appropriate to characterize ground water as common property, a *res communes* or thing common to all and property of none, but usable within rational limits. Illustration (g) Sec. 7 of the Indian Easement Act says, ‘The Right of every owner of land to collect and dispose within his own limits of all water under the land which does not pass in a defined channel. The term ‘defined channel’ is understood to be a contracted and bounded channel, although the course of the stream may be undefined by human knowledge. The term ‘collect and dispose…. all water under the land’ suggest that a person by extraction of percolating ground water may even drain so much water that his neighbour may be left without any percolating groundwater even though the latter was prior user of such

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477 Chhatrapati Singh, Water Rights in India, in Water Law in India, 1992. Under the Transfer of Property Act 1882, the right to ground water could be transferred only of the dominant heritage i.e. Land was transferred.
478 Dr. P Ishwara Bhat, Legal Management of Ground water to Ensure Rational Use and Development with Justice; National Workshop on ‘Water Quality Management: Role of the Legal System; University of Mysore and also see Partha Dasgupta, The Control of Resources, Delhi; Oxford University Press, 1982, p. 19.
However, when competition for water did develop, it has become more apparent that in an arid environment there were drawbacks to this doctrine.

**American rule or the reasonable use rule:** One modification made by many courts in the west was the implementation of the reasonable use doctrine. Basically, the reasonable use doctrine limits a landowner’s right to the water beneath his or her land to that amount necessary for some reasonable and beneficial purpose on the land above the water. The waste of water or the transportation of water off the land is not considered a reasonable beneficial use of such use interferes with the right of adjacent landowners to use the water beneath their own lands for the beneficial use of those lands.

**Correlative rights:** Some states in the United States have developed the correlative rights doctrine as an alternative to the absolute ownership doctrine. Basically, the correlative rights doctrine recognizes the landowner’s right to use the water beneath his or her land but with limitation. The limitation provides that landowners have a correlative right to a reasonable amount of that water when the water is applied to a reasonable beneficial use on the land overlying the groundwater basin.

**Prior appropriation:** Most western States and India have adopted the prior appropriation doctrine. This doctrine simply provides that the first appropriator of water, by putting that water to beneficial use without waste, has a right to continue that use. And such rights are superior to the rights of people who appropriate water at a later date. In prior appropriation states, water rights are usually administered by state officials or office through a permit procedure.

**Adverse possession doctrine:** Some Nations follow that water rights issue to be acquired by adverse possession. Basically adverse possession or adverse use, allows for the acquisition of water rights by the open and notorious use of some else’s water for some statutory period, say five or 12 years in Indian case. The acquiring of rights by adverse use or adverse possession is not unique to water law, but its application has proven to be problematic to the property rights issue and disastrous for resource conservation efforts.

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479 *Ibid.* The legislative policy underlying sec. 7 is highly outmoded colonial principle, hardly suitable to meet the imperative of development with justice underlying the republican constitution in the background of strides in groundwater technology in India.

480 Jeffrey S Askley and Zacharry A Smith; Ground Water Management in the West; University of Nebraska Press; Lincoln and London 1990.

481 See Transfer of Property Act, chapter on adverse possession.
3.9.2. Policies So far

The Ministry of Water Resources prepared a model bill for enactment by all State Governments for regulation and control of the development of groundwater under Groundwater (Control and Regulation) Act (GOI, 1992) (ref. 2). Here, the procedures for constitution of State Groundwater Authority (SGWA), powers to notify areas and grant permission and restrictions for control and regulation of groundwater development have been described in detail.

Unfortunately, despite acute, and sometimes perennial water scarcity in many parts of India, the government is yet to legislate effectively to conserve groundwater resources. Soft drink and bottled water companies pay next to nothing for the water they extract. Given that the primary raw material comes free of cost, wastage in the industry is ridiculously high. At Coca-Cola’s bottling unit in Nemam village of Tamilnadu, more than 2.5 million liters of water are extracted. Of this, 1.2 million liters is used for washing bottles, crates, equipment and the floors. Only 692,000—less than 30 percent—is used for actually manufacturing the soft drinks.482

To ensure proper and equitable distribution of ground water, to even those who do not own land, it is necessary to separate water rights from land rights. No such legal step has been taken in India so far. The only State to have a ground water law is Gujarat; there too the law has been applied in only few districts. There is no separate ground water law. Sections have been added to the Bombay Irrigation Act [Gujarat Amendment] Act, 1976.483 It merely tries to regulate water harvesting and marketing by restricting the depth of tube wells and introduces licensing procedures. Section 94 prohibits construction of tube wells beyond 45 m in depth. Beyond this depth, special permission is required from the authorities. Section 99 of the same Act regulates wastage of ground water.

The Andhra Pradesh Water, Land and Trees Act, 2002 is a remarkable piece of legislation, its effectiveness on ground is yet to be tested. The Act states all ground water resources in the State shall be regulated by an Authority. All owners of well/water bodies shall get themselves registered under the Authority. The Designated officer, with the approval of the Authority may prohibit water pumping on such area, likely to cause damage to the ground water level—for a period of six months after which review may be extended for a further period of not more than 6 months at a time. The Authority may also direct the stoppage of collecting electricity bills or

483 These sections were brought into force in 1988. This law does not touch the issue of water rights.
taxes, during the period such pumping of water if disallowed. No person shall sink any well within 250 meters of an area of public drinking water sources. Such well shall not include those well, which draw water from hand pump. Such sinking of well must take prior permission of the Authority. Unless otherwise provided for the Andhra Pradesh Electricity Board could not grant power supply, if it deems that such well would adversely affect public drinking water source.

The Authority may declare a particular water basin as over-exploited area and may impose restriction on sinking new well for 6 months, extendable after review of another 6 months. The Authority may frame guidelines for management of water in these scarcity areas. This guideline could stipulate the number of wells in the area, the depth of the well distance between two adjoining wells. The Authority is empowered even to ban the extraction of water from wells for Commercial, Industrial and Irrigation use for 6 months based on the advice of the Technical Committee. In all these, Irrigation and Standing crops shall be given priority. The Authority may also give a reasonable opportunity of hearing to the parties affected. For the above purpose the designated authority shall have the power of entry and inspection, including taking samples, survey etc. Every Rig owner shall register his machinery and maintain a register of this work. If it appears to the Authority that any person is contravening this provision of the Act, it may close down his well either temporarily or permanently. If closed down permanently, the owner shall be paid compensation on market value based on acquired land under the Land Acquisition Act 1894.

Further the Act speaks in specific term of reuse of water by recycling and to encourage the rain water harvesting on all roof top of not less than 200 sq. meters. Ground water resources shall not be contaminated by waste disposal or aquaculture activity.

3.9.3. Judicial Re-thinking on ground water extraction and contamination:

The Rajasthan High Court in L. K Koolwal v State of Rajasthan\textsuperscript{484}, a PIL was filed for the issue of Mandamus against Jaipur City Municipal Corporation to provide better sanitation facilities.\textsuperscript{485} The Court opined that the citizen has a right to know about the activities of the State. The privilege of secrecy does not survive now to a great extent. Under Art. 19(1)(a) the

\textsuperscript{484} AIR 1988 Raj 2.
\textsuperscript{485} Jaipur had bad sanitation facility. This caused inconvenience to the citizens and environmental hazard due to accumulation of filth, rubbish, night soil, odour etc.
right to freedom of speech is based on the foundation of the right to know. But this right is limited, particularly in the matter of sanitation. Every citizen has a right to know how the state is functioning in such matters because maintenance of health, preservation of the sanitation and environment falls within the preview of Art. 21 of the Constitution as it adversely affects the life of the citizen and it amounts to slow poisoning, if not checked.\textsuperscript{486} The Court was active enough to make sure that the executive is ordered to comply with the laws and ensure that the citizens are given a better sanitation facility. But, the Court easily slipped away when it came to working out the economics in implementing such order. The Court took initiative and chalked out the programme but failed to realize that it would be useless if there were no funds available for the same. The Court infringed on the doctrine of the separation of powers when it ordered the Municipality to clean up the city within six months and appointed a commission to supervise the working and report the same. But, when the question was on allocation of resources it backed out stating it is not within its jurisdiction.

As early as in 1990, in \textit{F. K Husain v Union of India},\textsuperscript{487} the Kerala High Court, while reviewing the excessive withdrawal of ground water by the local authority of Lakshadweep island to cater to the demands of increasing population by the use of modern groundwater technology held that ‘the right to sweet water and the right to free air are attributes of the right to life, for, these are the basic elements which sustain life itself’. The Court acted upon the report of expert body appointed by it and directed for a ceiling on withdrawal, application of measures of safeguards, harvesting of rainwater and desalination of water for conserving the ground water resource. In \textit{Attackoya Tangal}, excessive withdrawal of ground water by the rich farmers in Lakshadweep was controlled by the Kerala High Court. The above two cases essentially brought into light the need to bring about better and efficient management of water resources in the island of the country.

In \textit{Puttappa Honnapa Talawar}\textsuperscript{488} the single Judge Bench of the High Court ruled that right to life under Art. 21 included right to dig bore wells for purpose of drawing ground water either for drinking or cultivation or some other business or profession and that this right could be

\textsuperscript{486} Under Chapter 6 of the Rajasthan Municipalities Act, 1959, the Municipality is under a duty to maintain the city clean. Chapter 6 deals with three duties of the Municipality namely primary, secondary and special duty. Cleaning public streets, places, sewers and all such spaces, and removing off rubbish, filth is the primary duty of the municipality. It is for the municipality to see how to perform the primary duties and how to raise resources for the performance of that duty. In the performance of primary duty no excuse can be taken and can be directed also as it is primary, mandatory and obligatory duty to perform the same.

\textsuperscript{487} \textit{AIR} 1990, Ker. 321 at 323.
regulated only by law and not by administrative directions. In the same background, in *Venkatagiriappa v K. E B*\(^{489}\), the Divisional Bench of the High Court held that the right to life could be held to include right to have water for drinking purposes with out which right to life cannot be enjoyed at all. However the rights to have water for irrigation purposes cannot be stretched to the extent of bring it within the ambit of Art. 21 of the Constitution of India. The right to have subsoil water for irrigation and business purposes may at the most amount to right conferred under Art 300-A.’

The Supreme Court in *S. Jagannath v Union of India*\(^{490}\) ordered for closure of shrimp culture industry, which was established in coastal zone or which resorted to ground water withdrawal for aquaculture purpose. This meant that right to ground water for commercial purposes cannot be claimed as a matter of right to life.

*In M. C Mehta v Union of India* [ground water case]\(^{491}\), the Supreme Court raising alarm bells on the depleting water table in Delhi asked NEERI to investigate, report and recommend measures to abate such disaster. The Court monitored the constitution of the Central Groundwater Authority\(^{492}\) so as to legally regulate indiscriminate boring and withdrawal of underground water in the country. But legislative incompetence of the Union to bring a national law on the subject and inaction and hesitation of states has obstructed the growth of law.\(^{493}\)

Applying the ‘polluter pays principle’ for the first time, the Supreme Court in the *Bichhri*\(^{494}\) [Indian Council for Enviro Legal Action v Union of India] case, held that it is not the role of the Government to meet the costs involved in either prevention of such damages, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the taxpayer. Bichhri a small village in Udaipur District of Rajasthan had within its vicinity the Hindustan Agro Chemical Limited, which produced chemicals like Oleum etc. The real calamity occurred when a sister concern, Silver Chemical, commenced production of ‘H’ acid. Its manufacture gave rise to enormous quantities of highly toxic effluents-in particular, iron based and gypsum based sludge-which was not properly treated pose grave threat to earth. Since the untreated toxic was allowed to flow out freely and was in the open in and around the complex, the toxic substances had percolated deep into the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams had turned dirty rendering it unfit for human consumption. It had become unfit for cattle to drink and for irrigating the land. The soil had become polluted

\(^{488}\) AIR 1998 Kar. 10.


\(^{490}\) AIR 1995 SC

\(^{491}\) AIR 1996 SC

\(^{492}\) A Central Groundwater Resource Management Authority, with the composition as delineated in Section 6 of the EPA 1986.

\(^{493}\) Under the Constitution, legislative subject on ‘water that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power’ is vested upon the State.

\(^{494}\) AIR 1996 SC 1446.
rendering it unfit for cultivation, the mainstay of the villagers causing misery to them. It spread disease, death and disaster in the village and the surrounding areas.

The Court held that the law stated by the Supreme Court in Oleum Gas leak case was to be appropriately applied to this case. Accordingly, if an activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. The reasoning being that the enterprise carrying on the hazardous or inherently dangerous activity alone has the resource to discover and guard against hazards and not the person affected. The practical difficulty on the part of the affected person in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise. Thus the Industries are absolutely liable to compensate for the harm caused by them to the villagers in the affected area. They are bound to take all necessary measures to remove the sludge and other pollutants lying in the affected area and also to defray the cost of the remedial measures required to restore the soil and the underground water sources.

In M. P Rambabu v. The District Forest Officer⁴⁹⁵ the Andhra Pradesh High Court went one step further and held that ‘Deep Underground Water’ was the property of the State under the doctrine of Public Trust. The holder of land has only a user right towards the drawing of water in tube wells. Thus, neither his actions nor his activity in any way can harm his neighbors. A person who holds land for agricultural purposes may, therefore subject to any reasonable restriction that may be made by the State, have the right to use water for irrigational purposes and for that purpose he may even excavate a tank. But under no circumstances he can be permitted to restrict flow of water to the neighbours land or discharge effluents and contaminate water affecting the right of his neighbour, to use water. Such an act would violate Article 21 of the Constitution. The Public has a right under the doctrine of Public Trust ‘to enforce a right’ to prevent infringement of his interest in which the public, at large are affected.

**Conclusion**

It is difficult to understand the importance of ground water law without taking into consideration the social functions that water law has served and how changes in the law have

⁴⁹⁵ AIR 2002 A. P  256.
mirrored changes in water use and in society. Stability of water ownership is essential for economic growth and long term planning. Farmers or citizens are not likely to build expensive water-development facilities if their title to the resource may be called into question at some point in the future.  

Ground water depletion and its environmental pollution are a serious consideration for policy makers. It is the bounden duty of both the Central and State Governments to abate ground water contamination and pollution. Ground water recharge project should be developed and implemented. Over-exploitation of ground water should be avoided especially near the coast to prevent ingress of sea water into sweet water aquifers. Proper land management in the coastal States is essential to prevent soil erosion.  

However, a great deal of thinking and research needs to be done to come up with appropriate ground water rules, specially from the point of view of people’s water rights.

### 3.10. WATER: WILL PRIVATIZATION WORK?  

Many observers believe that a major cause of water misuse and declining water supplies is the provision of water at very low or no cost. At least theoretically, improving price signals so that water users pay a price reflecting the full-environmental and social costs of water could significantly improve water use efficiency and release the pressure on water supplies. It is widely accepted that in view of the shortage of water (present and future), efficient usage is the only solution for better water resources management. However, the Dublin Principle of water said: "water has an economic value in all its competing uses and should be recognized as an economic good". Endorsing this principle, the crux of the vision of the multilateral financial institutions like the World Bank, as articulated in the World Water Vision, seems to be that "Water is now more a commodity than a natural resource."

These assumptions are based on understanding that there are six principal drivers: economic growth, population pressure, technological change, social performance, environmental quality and governance and institutions. Water is required for life, food, health and development.

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496 Jeffrey S Askley and Zachary A Smith, Ground Water Management in the West, University of Nebraska Press; Lincoln and London, Introduction.
498 Would this be trade or Commodification of Water?
499 See David Hunter, at p. 814.
Given such competing uses of water, the emphasis can be on technologies and institutions. However, there has been no discussion on technology transfer and the financial mechanisms to achieve that. In fact, at the Earth Summit, in 1992, there were intense discussions on global environmental problems (including water). At that stage and later on, developed nations and multilateral institutions such as World Bank and United Nations have pledged and agreed upon transfer of better and efficient technologies for resource management.

The World Water Vision does not refer to urban and industrial usage of water, which degrades the water quality to the maximum extent, and also inefficient usage. This Vision says efficiency is achieved through pricing and privatization: pricing water will lead to equity, efficiency and sustainability.

Analysing the present situation, the World Water Vision says that the current crisis in water management is due to institutional failure. In such a case, how can privatisation (meaning high competition, assured market) of water (a life-giving important resource) lead to efficient management?

Everywhere, even in the West, experience has been that privatisation has to be tempered with consumer awareness and activism, and hawkish public institutions. When there is a institutional failure all around, there is no guarantee that private management will be efficient and competitive. Already, the powerful elite in several places is controlling water resources, illegally, but with the tacit support of the governments. This situation can be worse with legal privatisation. In practice, privatization of water supplies has frequently led to monopoly control of water resources [with their own problems of inefficiency and inequity], as well as the reduced services for the poor and lower ecosystem protection.

It is equally important to note that pricing does not automatically mean efficiency. If we take the case of oil, a natural resource, has the pricing led to efficiency? Even with taxes and exploitative pricing mechanisms, oil consumption is increasing and nowhere at managing level. Then how can water, essential for all life, be priced and expected that it will lead to efficient usage. The term efficiency itself is undefined and non-specific.

The World Water Vision says that agriculture is the sector where water wastage is the maximum. Based on this, it recommends water productivity, biotechnology and alternative

500 For more see www.worldwatercouncil.org visited on 12/11/03.
501 In short privatizing water resources can improve efficiency, but unless significantly regulated and shaped, privatization can also undermine environmental and equity values.
502 www.worldwatercouncil.org/vision.shtml visited 11/12/03.
cropping patterns as the solution. However, the discussion on water productivity, and promotion of biotechnology ignores the facts in Third World agriculture. Already, farmers due to several reasons have been raising crops which use the water to the extent it is available. Even in excess usage situations, water gets evaporated or sinks. The impact of excess water usage, if at all, is on the consequence of that usage and it does not make any difference on the quantity of water.

Further, the World Water Vision says industrial and domestic sectors are subsidising the agricultural inputs (water, power, etc.). This is blatantly false. Firstly, even if there is enormous investment on irrigation structures, agriculture does not get to see that investment as cash. Secondly, irrigation or water investment is miniscule when compared with agricultural productivity in terms of employment, output, exports, taxes, economic growth, etc. Thirdly, all water-related investments were based on developmental function. In fact, now there is a need to emphasis on social and ecological or environmental function to balance the situation. Privatisation will make water a 'business of the few', unlike the universally accepted vision of 'making water everybody's resource and concern'.

The present trend in reforms seems to externalize social costs and internalize environmental costs (as demonstrated by the discussion on financial cost and economic value of water in the World Water Vision) - to talk in the language of economics. Is it so much because of environmental concerns and widespread awareness, or we moving inexorably towards a situation wherein having destroyed environment (through ignorance and externalisation) we are going to destroy the poor themselves (by externalising them) in the name of efficiency, equity, balance, etc? Because of this, NGOs and Labor groups have been critical of the Vision document.503

They have expressed serious concerns about the process and contents of the Framework for Action. Although there are some positive action points and recommendations, such as community-based rights, the mechanisms for integrating them into an overall process are flawed. The process is dominated by technocratic and top-down thinking, resulting in documents which emphasise a corporate vision of privatisation, large-scale investments and biotechnology as the key answers. The process gives insufficient emphasis and recognition of the rights, knowledge and experience of local people and communities and the need to manage water in ways that protect natural ecosystems, the source of all water.
Liberalization of trade in water services could have a damaging impact on the global environment and poor people's access to a clean, safe water supply. The Friends of Earth, an NGO based in UK, claims that further liberalization is being pushed through the General Agreement on Trade in Services (GATS), one of the topics discussed at the World Trade Organisation (WTO) talks in Doha. Hannah Griffiths, Corporate Campaigner for FOE, stated that "private water companies are among the worst polluters" and that water privatization "has brought an increase in the price to the consumer, as well as allegations of bribery, corruption and unfair labour practices". The WTO denies that GATS requires privatization or deregulation of any service. So far no WTO member has made a GATS commitment on water distribution.

In 1998, being unable to launch scheme for infrastructure facilitation for growing industries and succumbing to pressure from the bulk consumers/industries, the government of Chattisgadh decided to involve the private sector in water supply scheme.\(^{504}\) It signed a 22-year lease with Radius Water Limited, giving it the right to 23.6 km of the Sheonath and supply the Borai Industrial Centre water from July till September through the nodal agency. The project was commissioned in April 2001. The Company now supplies 40 million kilolitres of water at Rs.12.60 a kilolitre to industries, the railway station and a railway colony through the nodal agency, which would pay Radius irrespective of whether it collects the money from the industries using the water. As a consequence of the contract, farmers situated in the area depending on river for their agricultural activities and for drinking water from time immemorial are denied access to it. There were agitations by NGOs and farmers against the deprivation because of privatization.

In Kerala, the ramification of two government sponsored privatization schemes and of two private enterprises can be highlighted.\(^{505}\) First one is Periyar. According to a revised scheme presented by Kerala State Industrial Development Corporation Ltd., the Rs.330-crore Cochin Industrial Water Supply Scheme (CIWSS) is meant to allow the private investor to pump out 200 million litres a day (MLD) from the Periyar river at Mahilalayam in Aluva, purify it at a 20-acre (eight hectare) treatment plant near Kalamassery, and distribute potable water to major industrial and commercial units in and around Kochi at a rate of Rs.14 a kilolitre (out of which Rs.2 a kl is to be paid to the government as water cess). It was meant to be build-own-operate-transfer (BOOT) scheme, to be operated fully by the investor for the lease period of 20 years. The private company that would run the scheme is also expected to implement "long-term steps to improve the flow rate in the river", such as constructing check dams in the upstream points and regulators to check salinity intrusion from the sea (the Kochi area being at the mouth of the river) and dredging reservoirs to improve their storage capacities. The major beneficiaries of the project include

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\(^{503}\) [http://www.earthscan.co.uk/wwv/wwvhome.htm](http://www.earthscan.co.uk/wwv/wwvhome.htm) visited 11/12/03.

\(^{504}\) P. Ishwara Bhat, unpublished work on Water Conservation and Management. CEERA, NLSIU, Bangalore.

\(^{505}\) Ibid.
large scale and small-scale industries, hospitals and educational institutions. There is a view that the river is already polluted because of several industrial units that are situated on its banks, who depend on it for water supply. Added to it is the problems of indiscriminate sand mining (according to one estimate, about 50,000 tonnes a day) and salt water intrusion into the river during summer. Reduced flow of the river because of privatization is likely to further aggravate the problem.

Second one is the Rs.1,351-crore Kanjikode Industrial Water Supply Scheme (KIWSS), which is to meet the "present and ultimate water demand" of the new industries being established in the industrial belts and the proposed industrial townships at the Kanjikode Industrial Development Area (IDA) and the Pudussary Industrial Development Area in Palakkad district. The main source of water is to be the Malampuzha irrigation dam. Moreover, the investor will also be allowed to "rely on groundwater sources" and "rainwater harvesting" during the monsoon season. Withdrawal of 75 MLD of water from the Malampuzha irrigation system, to be supplied by the private investor to the industrial units at Kanjikode and Pudussary is causing fears about originally meant utility of Malampuzha dam to irrigate paddy crops on 20,000 ha in the district, and to serve as the source of drinking water supply to Palakkad town and six panchayats in the district. The dam is never full and is unable to supply water for more than 60 days for the two crops of paddy. The already existing arrangement for Pepsi bottling plant which draws 1.75 lakh litres of water a day from the Malampuzha dam has raised much concern amidst farmers. The new scheme would mean an assured supply of water for the private investor, irrespective of the water shortage in the region, and is likely to deteriorate the situation.

The World Water Vision advocates global management, or globally devised strategy as the best for every region, country and situation. This is an archaic argument. It is widely acknowledged that concerns can be global, but solutions have to be local.

The main objective of water management is `how people can obtain adequate and equitable supplies of water and energy far into the future, reduce the destructiveness of floods, and protect the watersheds from degradation'. More attention needs to be paid to the social and ecological or environmental functions of water, if there has to be a balance in `all competing uses of water'.

3.11. Institutional Reform

This area is the most crucial area for reform, if India is to see water management. At an instant glance, one would see that the whole legal framework for resource management is one where no one is responsible or accountable for mismanagement. The Pollution Control Board regulates water Pollution in river and streams, where as the Water Act is not competent enough to handle sewage water from urban localities. The water distribution in rural areas is with the Irrigation Department, but apart from supply, these departments have no obligation for conservation, equitable distribution nor for preventing pollution. The Minor Irrigation
Department are in charge of tanks, ponds and wells, but they are not accountable for the depleting ground water table, nor the erosion of the tank irrigation system in Karnataka. More and more urban areas now face acute shortage of water supply during summer, while the Municipal authorities squarely blame the State Government for policy failure and Agriculture department for mis-utilisation of water, the common man continues to suffer. Institutional reform in forming integrated approaches to planning and water use, exploitation, distribution and conservation will go a long way in avoiding wastage of water and for equitable use. Though we have seen a broad areas of law, policy and regulation toward ‘water’, the resource is diminishing and shortage increasing. The root causes of the crisis are:

- The system of ‘water rights’ under common law in India, which gives the ownership of groundwater to the landowner, despite the fact that ground water, is a shared resource from common pool aquifers.
- Uncontrolled use of the borewell technology, which has allowed the extraction of ground water, primarily for irrigation, to grow at phenomenal rates, often exceeding recharge.
- Communities not being in control of their water resources. Water is used as a political tool, controlled and cornered by the rich, who do not pay the price for this scarce resource. The poverty of incomes, capabilities and opportunities of many is compounded by ‘water poverty’.
- Rampant pollution of fresh water resources.
- The lack of adequate attention to water conservation, efficiency in water use, water re-use, ground water recharge and eco-system sustainability.\(^{506}\)

Unless immediate measures, both in terms of law, policy and management, are not taken then the situation threatens to go out of hand and ‘a crisis mismanaged’.

.11.2. State and Civil Society

If traditional community-managed systems are to be revived, if local water harvesting and watershed development programmes are to be promoted extensively, and if the focus is to shift from state to civil society, the latter needs to be ‘empowered’. In so far as river waters are concerned, the Irrigation Acts of the various states vest the control in the State Government. Whether this is merely ‘control’ or ownership makes no material difference. The ultimate authority to decide on the use of the waters vests with the Government. This makes community initiatives problematic.\footnote{507}

Again, reference has been made earlier to a kind of ‘parliament’\footnote{508} established by the people for dealing with the waters of the Arvari river and resolving conflicts relating to those waters. This is purely an informal body without any statutory backing and any authority it has acquired by common consent in civil society. In this context, it must be recognized that the present legal framework in the country does not favour such community initiatives; it is in fact, hostile to them.\footnote{509}

Another related problem is that of the relationship between such civil society organizations and panchayats. Should Panchayats themselves be made responsible for water harvesting activities? In the commands of major irrigation projects, should panchayats and Water Users Association be identical? If there are separate organizations for such water management activists, what is their standing \textit{vis-a-vis} the panchayats and what should be the role of the latter?\footnote{510}

3.11.3. Rain water Harvesting

In urban areas, the construction of houses, footpaths and roads has left little exposed earth for water to soak in. In parts of the rural areas of India, floodwater quickly flows to the rivers,\footnote{507} In Rajasthan’s Alwar district, when community initiatives resulted in water reappearing in rivers and streams that has been dry for years, the state claimed the right of control over those waters for the purposes of allocation, licensing fisheries etc. the dispute has not become acute, and some kind of a \textit{modus vivendi} seems to have been worked out, but the legal issue remains and could come up again in a future case. Organisation for People and Water, New Delhi, Newsletter Vol I 2002.\footnote{508} Popular know as the PANI PANCHAYAT.\footnote{509} The National Water Policy 2001 speaks of these as User Groups, and talks exclusively in terms of their promotion, but unless these policies are transformed into statutory lines, they would be dead letters of Governmental promises.\footnote{510} Ramaswamy R. Iyer, Water: Transforming Laws and Institutions, the Asian Journal. Vol. I Sept. 2000, Journal of Transport and Infrastructure. p. 65.
which then dry up soon after the rains stop. If this water can be held back, it can seep into the ground and recharge the groundwater supply.

This has become a very popular method of conserving water especially in the urban areas. Rainwater harvesting essentially means collecting rainwater on the roofs of buildings and storing it underground for later use. Not only does this recharging arrest groundwater depletion, it also raises the declining water table and can help augment water supply. Rainwater harvesting and artificial recharging are becoming very important issues. It is essential to stop the decline in groundwater levels, arrest sea-water ingress, *i.e.* prevent sea-water from moving landward, and conserve surface water run-off during the rainy season.\(^{511}\)

Town planners and civic authorities in many cities in India are introducing bylaws making rainwater harvesting compulsory in all new structures. No water or sewage connection would be given if a new building did not have provisions for rainwater harvesting. Such rules should also be implemented in all the other cities to ensure a rise in the groundwater level. Realizing the importance of recharging groundwater, the CGWB (Central Ground Water Board) is taking steps to encourage it through rainwater harvesting in the capital and elsewhere. A number of government buildings have been asked to go in for water harvesting in Delhi and other cities of India.\(^{512}\)

All you need for a water harvesting system is rain, and a place to collect it! Typically, rain is collected on rooftops and other surfaces, and the water is carried down to where it can be used immediately or stored. You can direct water run-off from this surface to plants, trees or lawns or even to the aquifer.

### 3.11.4. Integrated approach

Integrated approach in the present context implies several factors. Firstly, groundwater and surface water shall be managed together for better quality, equitable distribution and conservation. According to the National Water Policy 1987, “Integrated and coordinated development of surface water and groundwater and their conjunctive use, should be envisaged

\(^{511}\) [http://edugreen.teri.res.in/explore/water/conser.htm](http://edugreen.teri.res.in/explore/water/conser.htm)

\(^{512}\) Once Cherrapunji was famous because it received the largest volume of rainfall in the world. It still does but ironically, experiences acute water shortages. This is mainly the result of extensive deforestation and because proper methods of conserving rainwater are not used. There has been extensive soil erosion and often, despite the heavy rainfall and its location in the green hills of Meghalaya, one can see stretches of hillside devoid of trees and greenery. People have to walk long distances to collect water.
right from the project planning stage and should form an essential part of the project.” The requirement of equitable distribution is in continuance of the policy of development with justice supported by positive rights of life like right to drinking water and right to livelihood. The rights of traditional users of rivers and of small farmers, which would be driven to helpless situations of deprivation of water source because of unreasonable extraction of surface and groundwater, ought to be taken into consideration as a part of integrated approach. Community’s integration should be the natural outcome of application of equitable distribution principle in waterfront. Secondly, the policies relating to most economic use, prevention of pollution, revival of traditional tanks, purification of wastewater, recycling, recharge of groundwater, and rainwater harvesting shall be applied in a concerted and collective manner. Thirdly, approaches relating to afforestation, soil conservation and regulation of mining shall be integrated with the efforts of water conservation. Fourthly, integration of water-use and land-use policies shall be done along with appropriate irrigation planning and use of cost effective irrigation options. Finally, agencies that participate in these activities – central and state governments and their respective departments, panchayats, municipalities, public undertakings, private organizations vested with the responsibilities of water works, water users and the NGOs- shall act with perfect coordination and unity of purpose. 513

Conclusion

The approach of planners has been to use capital-intensive and technology-intensive methods to supply huge quantities of water making water a marketable commodity, but without paying adequate attention to its distribution. Merely supplying huge quantities of water does not necessarily improve availability of water, and when supply is privatized, water becomes available only to those who can afford to pay, thus violating the fundamental right to life that the Constitution guarantees.

Fresh water supply from nature by rainfall is a distributed phenomenon and at the same time, water is essentially a decentralized requirement because millions of different users need water at millions of places in different quantities at different times for various uses. Centralizing water collection and storage, and then conveying the huge requirements of millions of different kinds of users over long distances and distributing it to them is less efficient in terms of finance, energy requirement and materials than a relatively decentralized system. Where large numbers of people live in close proximity as in urban areas, the present centralized systems are not able to cope and hence decentralizing to the extent possible by rooftop rainwater harvesting is coming into use. However, water for agricultural purposes needs to be decentralized to avoid conveying huge quantities of water over long distances for intensive (flood) irrigation. This is quite apart from the fact that intensive irrigation has
resulted in salination of the soil over the years. For example, about 20% of irrigated land in Punjab is salinated and unfit for cultivation, as also the entire Pakistani Punjab districts of Lyallpur and Sargodha. It has been conclusively demonstrated that adequate availability of both surface and ground water for agriculture is possible especially in arid and semi-arid areas by construction of check dams, each of which cost only a few lakhs or, with participatory labour of those who benefit from it, even less. There are successful working examples of such decentralized systems in various states all over India.

Water Resources Day is being observed every year as part of a mass awareness programme; research and development programmes on different subjects in the water resources sector are being undertaken through Indian National Committees by universities, research institutes, and other organizations; pilot projects on recycling and reuse of waste water and artificial recharge of ground water are under implementation; guidelines on the conjunctive use of surface water and ground waters have been prepared and are under implementation; command Area Development Programmes have been implemented since 1974; participatory Irrigation Management (PIM) through Water Users' Associations and women's participation is being actively encouraged and implemented; a network of hydrological stations, hydrometric observation stations, and ground water measurement stations collect data, including water quality data, through organizations under the Central and State Governments on a continuous basis (water resource data are collected and transmitted through the network of the National Informatics Centre); and standardization is being carried out continuously through the Bureau of Indian Standards which participates in the International Standards Organization.\textsuperscript{514}

The agricultural production cannot depend solely on natural rainfall and artificial irrigation is a necessity. In India, irrigation being a state subject (excepting inter-state rivers and river valleys whose regulation and development under the control of the union is declared expedient in the public interest by Parliament), the states have enacted their own legislation covering various aspects of irrigation to fulfill their primary responsibility to develop water resources. Not only are there different irrigation statutes for different states but also in most states there is a multiplicity of laws covering various aspects of irrigation management and administration resulting in inefficiency of their administration through multiple authorities. For efficient administration of irrigation, it may be suggested that existing irrigation laws of each state be

\textsuperscript{513} P. Ishwara Bhat, supra at n. 195
\textsuperscript{514} This becomes more important in the light of recent finding of pesticide residue in Coke and Pepsi bottled drinks. For more on the above see http://www.un.org/esa/agenda21/natinfo/countr/india/natur.htm#land.
consolidated into one statute to avoid multiplicity, and the consolidated statute should apply uniformly to all regions within the state.

The right to water is common to all beings and this right is a gift of creation, it is a natural right, a birthright. Common right goes hand in hand with common responsibility -- a common responsibility to conserve water, use it sustainably, and share it equitably.