Introduction

Water conflicts arise at various levels between – countries, states, regions and sub-regions within states, districts, political parties, castes and groups and individual farmers. These pose a significant threat to the economic growth, social stability, security and ecosystem health.

Conflicts indicate the absence of proper democratic, legal and administrative mechanisms to handle issues that give rise to them. Water is complex resource and is turned into a resource through ideological and material means by isolating and imposing an economic and private property framework on a complex part of the ecosystem. However, the specificities of water as a resource continue to break through and create problems. Water is a mediated resource, made available by and through the ecosystem, which becomes available in common but is used individually; unlike other public utilities (roads, parks, etc) it cannot be used in common. Water is divisible and amenable to sharing and has private benefits. It has multiple uses and users and involves tradeoffs. It is difficult to exclude people who receive it in the natural course as the costs of such exclusion are very high.

Water has different scales of availability and usage such as water at the homestead, micro watershed, watershed, sub-basin, basin, inter-basin as well as inter-country level that requires different ways of handling it.

Moveover, the way water naturally flows as well as the way it is planned, used and managed causes unidirectional and asymmetric externalities. For example, upstream use affects the downstream users, but not vice versa rich farmer who grows sugarcane on the adjacent field causes water logging in the neighbouring plot. This makes it possible to externalize or shift costs on to someone else. These characteristics have a bearing on the water related institutions. Given the complexity of the problem,

---


2 Both authors are Senior Fellows at the Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune. For more information on SOPPECOM visit www.soppecom.org

3 There is considerable amount of literature available on some of these, especially about common pool resources, their defining characteristics and the “fit” between these characteristics and the institutions to manage them. Lele Sharachchandra, 2004, “Beyond State-Community and Bogus “joint”ness: Crafting Institutional Solutions for Resource Management in Max Spoor, ed. Globalisation, Poverty and Conflict: A Critical “Development” Reader, Kluwer Academic Publishers, Dordrecht and Boston, pp. 283-303, summarises some of these discussions and debates.
it is no surprise that there is a relative paucity of frameworks, policies and mechanisms that deal with water resources, especially in comparison with those that deal with immobile natural resources like land.

A number of water conflicts arise, which are difficult to classify into different types. Due to the complex nature of water, the boundaries of conflicting parties are not easily drawn and they tend to cut across class, caste and gender issues to different degrees. However, to understand the nature of these conflicts we have classified them in seven categories (see for more details our book, ‘Water conflict in India: A million revolts in the making’).

Conflicts over equitable access

The most important, and almost classical type are the conflicts over equitable access for a common use – conflict between different users but within the same kind of use. Examples could be the conflict between middle class localities and slums over drinking and domestic water or that between big and small farmers over equitable access to irrigation. These conflicts overlap the most with class, caste and gender issues. However, there is a wide variety: for example, contestation over and between old and new water rights, old and new projects, tailenders and head-reachers, inter-basin transfers (Box 4.1).

4 The Compendium divides water conflicts into eight themes and includes a thematic review for each theme: The theme of water conflicts around contending water uses is reviewed by Bhiksham Gijja; of water conflicts around equity, access and allocation by Suhas Paranjape and K. J. joy; of water quality conflicts by Paul Appasamy; of sand mining by P. B. Sahasranaman; of micro-level conflicts by K. V. Raju; of dams and displacement by Bharat Patankar and Anant Phadke; of transboundary conflicts by Ramaswamy R. Iyer; and of privatization by Sunita Narain.

5 See Joy et. Al (2008) which discusses following conflicts around equity and access in more details: Water Users in the Bhavani River Basin in Tamilnadu: Conflict among new and old Ayacutdars by A. Rajagopal and N. Jayakumar; The Collapse of an Ancient System in the Tapi Basin: A river strains to meet the farmers’ needs by S. B. Sane and G. D. Joglekar; Tail End Discrimination in an Irrigation Project in Maharashtra: Quota reductions for the Palkhed Left Bank Canal by S. N. Lele and R. K. Patil; Mahad to Mangaon: Eighty years of caste discrimination: What caste is water? by Suhas Paranjape, Raju Adagale and Ravi Pomane; A dialogue along the Jholapuri River, Coastal Gujarat: Addressing water and gender conflicts through Multi-Stakeholder Partnerships by Sara Ahmed and UTTHAN Team; Tembu Lift Irrigation Scheme in the Krishna River Basin: Conflict over equitable distribution of water by Namrata Kavde-Datye; Diverting Nar-Par-Damanganga to Tapi-Godavari: Linking projects or lurking conflicts? by Datta Desai; Problems at the Indira Gandhi Canal in Rajasthan: Desert brawl over water allocation by Binayak Das; Rehabilitating the Keezhparikkalpet in Pondicherry: Bore well owners give in to farmers by T. P. Raghunath and R. Vasanthan; Groundwater Irrigation in Northern Gujarat: Digging deep for answers by Jennifer McKay and H. Diwakara.
Box 4.1 Equity, Access and Allocation

Bhavani is an important tributary of the Kaveri in its mid-reaches in Tamil Nadu. It originates in the Silent Valley forest in Kerala and flows in a south-easterly direction for 217 km till it joins the Kaveri at a town named Bhavani. The total area of the Kaveri basin in the state is about 43,000 km$^2$ of which the Bhavani sub-basin constitutes roughly 5,400 km$^2$. The Kaveri basin which drains Karnataka, Pondicherry, Kerala and Tamil Nadu comprises about 82,000 km$^2$ of which the Bhavani river basin is 6,000 km$^2$. A major portion (87 per cent) of this area is situated in Tamil Nadu.

The Lower Bhavani Project (LBP) is a major multi-purpose reservoir, mainly constructed for water storage and distribution to canal systems in the basin. The reservoir is also used for hydel power generation and fishing. Apart from this, anicuts like Kodiveri and Kalingarayan are used to divert water into different canal systems. These are old systems that have been in existence for several centuries. The upper part of the basin is not well developed and mostly depends upon wells and rain-fed agriculture.

The river plays an important role in the economy of Coimbatore and Erode districts by providing water for drinking, agriculture and industry. Due to an increase in population, unplanned expansion in the command area, as well as the growing domestic and industrial water demand, the basin is already “closing” and stressed. As a result there is intense competition among water users and a sizeable gap exists between demand and supply in agriculture and domestic sectors.

Water shortage downstream is even worse due to a prolonged drought that has lasted several years.

There was already a conflict of interest between farmers in the valley, the original settlers and the new command farmers of LBP. Old command farmers are entitled to 11 months water supply whereas the new ayacut farmers were only able to grow a single paddy or dry crop in a year.

But supply was at an all time low in 2002 and water was not released to the new command area. This has prompted the new ayacutdars to file a case against the state in the high court seeking water supply for at least one crop. Their contention is that water should be provided for the second crop in the old settlement only after meeting the requirements of the first crop in the new command as per the Government Order (number 2,274) issued as early as August 30, 1963. The court asked the Water Resources Organisation to arrive at a compromise formula for water sharing between the two areas. The department prepared a plan on the basis of size of command area. However, the old settlers objected on the grounds that they are entitled to 11 months of interrupted water supply as per their riparian rights. The impasse prompted local central ministers to bring the two sides to the negotiating table but this attempt to seek a solution also failed. The court in its interim order has now told the state to take prior permission from the court to open the system every season. Under the original regulation the canal was opened on April 18 for the old settlement and August 15 for the new ayacut.

The expansion of irrigation and hence demand has mostly taken place in upstream areas (and to some extent in old ayacut too) through unauthorised tapping of river water by direct pumping.

Downstream farmers did take the issue to court and even won a favourable judgment but the ineffective bureaucracy has been unable to implement the court’s orders.

The core issue here is the absence of clear cut norms of equitable water allocation and distribution. Allocation norms have evolved according to local situations, size and nature of project and historical socio-political relations. To tackle the conflicts over allocations and access we need a better concept of rights or entitlements to water. Water rights in Indian Constitution are situated within ‘Right to Life’. The rights needs to be defined based on a minimum requirement needed for livelihood needs. There is also need for framework to allow sharing of shortages and surpluses in a principled manner. But this cannot be done without addressing equitable access to water by all segments of the society.

**Conflicts over competing uses**

Another type of conflict is between contending uses. Unlike the earlier type, here the conflict is between different uses. This is difficult to resolve without some understanding of relative priority of the different uses and may not be simply reducible to sectional issues alone. Examples are conflicts over water for agriculture versus industry, for hydropower versus irrigation. A general trend is that in the conflict between rural and urban uses, the rural needs are steadily losing out. One important issue that has emerged recently, is the issue of environmental/ecosystem needs versus other needs (See Box 4.2). How much importance do we grant to ecosystem needs; firstly, to ecosystem needs in terms of preserving the very sources of water and secondly, also in terms of preserving the nature of the ecosystems themselves. In fact, there is evidence that structures built to improve the ecosystems may have unintended effects that actually harm people and ecosystems both.

---

6 Joy et. al (2008) includes the following articles on water conflicts related to competing uses: The Case of Keoladeo National Park: Conflicting water uses – Bio-diversity vs. irrigation by Malavika Chauhan; The Thaneermukkom Bund In Kuttanad: Choking the largest wetlands in South India by V. K. Ravi Varma Thampuran; Thirai Barrage in Manipur: A lake in trouble by Mihir Kumar Maitra; Bridge over the Brahmaputra: Unleashing nature’s fury by Chandan Mahanta and Anjana Mahanta; Whose is the Chilika? Fishing in troubled waters by R. S. Deshpande and Satyasiba Bedamatta; Crisis in the Gagas River Basin:Politics, water and forests in the Himalayas by Anita Paul and Kalyan Paul; Social Undercurrents in a Gujarat Village: Irrigation for the rich vs. drinking water for the poor by R. K. Sarma and Anjal Prakash; Water Conflict in Peri-Urban Areas of Chennai: Unequal power, unequal Contracts and unexplained resistance by S. Janakaraja; Contending Ground Water Uses in Sangolda and Saligao: Rural needs Vs. tourism in Goa by Sujeeckumar M. Dongre and Govind S. Poteker; Diverting Water from the Ganga Canal for Delhi: Rural livelihoods vs. urban need by Binayak Das.
Box 4.2 Contending Water Uses

Keoladeo National Park is situated in eastern Rajasthan on the edge of the Gangetic plains two km south-east of Bharatpur town and 50 km west of Agra. The park, known locally as ‘Ghana’, is a mosaic of dry grassland, woodlands, swamps and wetlands spread over 29 sq km. About 900 ha are divided into small, seasonally inundated reservoirs by a series of bunds and dykes. Bharatpur experiences climatic extremes – hot dry summers and freezing cold winters, with temperatures ranging from 0 to 2ºC in winter to above 48ºC during summer.

Keoladeo was famous as a wintering site for a subgroup of the western population of the Siberian crane. Though this species is now locally extinct, extensive habitat management over the past century has resulted in exceptionally high biodiversity including over 370 species of avifauna.

Keoladeo is unique in that it is a rich man-made biodiversity zone in a predominantly arid and highly populated rural landscape. In pre-independence India the area was a common property resource used by local herder communities, but with independence the first expression of discontent surfaced, fuelled by a need for arable land and irrigation water.

Under the circumstances it is inevitable that the issue of seasonal water requirement for the park and that of irrigation in the surrounding rural landscape has become a contentious one; and has, in fact, been a long-standing reason for discontent and conflict in the region.

In 1991 Panchna dam was constructed on the river Gambhir in Karauli tehsil, district Karauli, Rajasthan, to mitigate high floods and fulfil the irrigation needs of the local farming community.

There are two dimensions to the issue of conflict over water for Keoladeo National Park. The first and older dimension has been conflict over the water in Ajan bund. Every year water allocation for the park versus that for local farmers is an issue of contention. The dispute often escalates and forest fires occur in the park with unnatural regularity during the dry season. Every year the park administration has to lobby the state irrigation department for their quota of water from Ajan bund.

The second dimension surfaced in the post-monsoon season of 2004; this had to do with the demands of upstream agriculturalists. These are farmers in the command area of Panchna dam, which irrigates about 35 villages over a gross command area of 11,172 ha.

The latest conflict developed in August 2004, after a third consecutive year of low rainfall. The agitation was precipitated by a decision of a Rajasthan state government to release 8.15 mm3 water from Panchna reservoir to Keoladeo, which at the time had a storage of 35.7 mm3. The park had until then received a minimal 0.5 mm3 of water.

In September 2004 farmers from the command area of Panchna dam protested and government reversed its previous decision condemning Keoladeo to a dry year.

The reversal of the committee’s original decision kicked off a spate of pro-park protests and media articles. Following numerous complaints the Supreme Court held its first hearing on January 31, 2005.

The court directed the government of Rajasthan to release water to the Park from Panchna dam (Hindu, March 12, 2005; Indian Express, March 12, 2005)

Fortunately, the monsoons have been good this year and as of July 25, 2005, Keoladeo has already received more than 8 mm3 of water. Hopefully it will receive an optimal amount by the end of the season. Though this makes the ongoing case temporarily redundant, there needs to be a policy that makes it mandatory for a certain amount of water to be set aside for the park, particularly during the dry years.

Source: Adapted from - Chauhan Malavika, ‘Biodiversity vs Irrigation: Contending Water Uses’, Economic and Political Weekly, February 18, 2006
Conflicts over water quality

Issues related to water quality, or pollution, are fast emerging in various parts of India. Earlier these issues were treated as inevitable consequences of growth and industrial development, and were largely ignored as a necessary price to be paid. However, growing scale, increased awareness and active civil society engagement has brought water quality conflicts more and more to the forefront. The main issue here is how and in what form do users return water to the ecosystem. Polluted water returned by users causes problems to the `downstream users,’ and the decreased freshwater availability causes economic loss, social distress and ill health. Studies show that water pollution impacts both the ecosystems and the peoples’ lives and livelihoods. The corollary is that any possible solution to conflicts related to water quality needs to address both the ecosystem needs as well as people’s livelihoods. Sadly, however, the deterioration in quality becomes apparent only after adverse impact becomes large enough, and in the last instance it is the poor and ecosystems who are the major losers.

In spite of considerable civil society initiative, several legislations and pollution control boards at state and central levels, on the whole, we have failed in evolving a long term answer that can protect our rivers and aquifers from contamination. There is a need for a three-pronged approach to deal with this. First, a legal framework based on rapidly enforced criminal and civil penalties. Strict but non-implementable legal frameworks appear good only on paper. Second, environmental mediation, a pragmatic direction to settle issues quickly and amicably. Third, encouraging voluntary compliance. The latter is a long way from becoming effective in India, since consumers/users in particular are still focused mainly on price of water than on quality and safety.

Another issue, uncontrolled sand mining from river beds or seabeds has a deleterious effect on stream flows. Apart from its ecological impacts – to name a few, impact on stream flows and sandy aquifers, deepening of riverbeds, subsurface intrusion of saline seawater in coastal areas, erosion of the banks – it also impacts on the livelihoods of the local people, for example, through decreased availability of

---

7 See Joy et al (2008) for various cases of water conflicts around water quality and sand mining: Bridging the GAP in Kanpur Ganga: Failure of monitoring agencies causes pollution disaster in village by Praveen Singh; Kolleru Wildlife Sanctuary: Pollution through aqua culture by J. Rama Rao, Jasveen Jairath and P. Umesh; Unelloging the Khari River in Ahmedabad: Stakeholders come together to halt pollution by Srinivas Mudrakartha, Jatin Sheth and J. Srinath; Noyyal River Basin: Water, water everywhere, not a drop to drink by N. Jayakumar and A. Rajagopal; Conflict Over Water Pollution in the Palar Basin: Need for new institutions by S. Janakarajan; Toxic Hotspot on the River Periyar In Kerala: Corporate crimes in God's own country by M. Suchitra; Bidding Farewell to Grasim: The lessons that remain unlearnt by Abey George and Jyothi Krishnan; Factory in a Paddy Field in Pondicherry: Is Berger Paints polluting Pandasozhanallur? by Benjamin Larroquette and Gaspard Appavou; The Arkavati Sub-basin in Karnataka: Industrial pollution vs. rural livelihood systems by D. Dominic; Pollution in Hootagalli Village, Mysore: Water? No thanks by S. Manasi and N. Deepa; Pollution of the Musi in Andhra Pradesh: River metamorphoses into drain by Jasveen Jairath, Praveen Vempadapu and Batte Shankar; Water Turns into Sludge in Kohlapur: Villagers ransack industrial unit by Binayak Das and Ganesh Pangare; Sand Mining in Coastal Tamil Nadu: Government mining threaten local irrigation source by Benjamin Larroquette and Gaspard Appavou; Sand Mining in Papagani Catchment in Karnataka: Creating ground water depletion in AP by M. Chandrasekhara Rao; Baliraja Memorial Dam on Yerala River in Maharashtra: A case of sustainable utilisation of natural resources by Shruti Vispute; Mining and the Nandanvara Dam in Madhya Pradesh: When the State turns against its people by Ashim Chowla.
water for both domestic and irrigation purposes as the wells near the banks go dry. But sand is also a building material and local people also depend on the sand for their house construction. It provides seasonal employment to the local labourers. In many states it is one of the major sources of revenue for the Gram Panchayats. The contractor-bureaucrat-politician nexus further complicates the situation and the conflicts very often take the form of conflict between this nexus and the local people.

Sand is a local resource and it should be looked at in the context of rights over local resource and their management and the loss to local communities. Experts suggest that it is important to determine the quantity of sand that can be safely mined by taking into account annual rate of accrual or replenishment keeping a long time perspective of about 25 years or so and an appropriate pricing of sand alternative building materials to sand could be looked at by building industry.

Conflicts over dams and displacement

Conflicts over dams and displacements are relatively well publicised and better documented.\(^8\) (See Chapter……..) Dams are important, but they must supplement and not supplant the local systems, strengthen rather than weaken these systems and ensure dispersed, equitable access rather than sharpen inequity and create developmental islands/pockets. This can be achieved only by an integration of the large and small systems rather than favouring one over the other. If this approach is adopted, we can minimise displacement of people, and provide for better and more acceptable rehabilitation. This is important because in many drought prone regions in India, water from large and medium dams may be needed to supplement and strengthen local water harvesting and that their integration is the way to avoid dividing the poor and pitting them against each other as the drought affected beneficiaries versus the displaced victims.

Conflicts over privatisation

Privatisation of water is an important upcoming arena of conflict not only in India but also in many other countries in Asia, Latin America and Africa.\(^9\) What is important in these conflicts is that there is

---

\(^8\) For in-depth discussion, see Joy et al (2008), which includes following articles on the theme of water conflicts around dams and displacement: People’s Struggle in the Narmada Valley: Quest for just and sustainable development by Sanjay Sangvai; Alternative Restructuring of the Sardar Sarovar Project: Breaking the deadlock by Suhas Paranjape and K. J. Joy; Haribad Minor Irrigation Project in Madhya Pradesh: How multiple conflicts overlap by Rehmat Mansuri and Shripad Dharmadhikari; Struggle over Reservoir Rights in Madhya Pradesh: The Tawa Fishing Co-operative and the State by Vikas Singh; Tehri Dam Project: A saga of shattered dreams by Vimal Bhai; Pulichintala Project on Krishna River: The dam that never got built by R.V. Ramamohan; The Polavaram Project on the Godavari River: Major loss, minor gain by R. V. Ramamohan; Uchangar Dam in Kolhapur: Dispute over dam height and alternatives by Raju Adagale and Ravi Pomane; The Stalled Bhilangna Micro Hydel Project: Community anger over community rights by Pushpalata Rawat and Meera Kaintura.

\(^9\) In Joy et.al (2008) includes the following articles on the theme of water conflicts around privatisation: Coke Vs. People at Plachimada: Struggle over water continues by C. Surendranath; In Chhattisgarh a River Becomes Private Property: A sheepish government backtracks by Binayak Das and Ganesh Pangare; Rights over Kelo
a privatisation of rights and entitlements that is taking place under the garb of privatising services.
Equity and access to water are the aspects that are most threatened by privatisation whether it is the bottled water variety or the high cost 24 x 7 schemes that tend to exclude the poor (Box 4.3) This has created a peculiar situation where real benefits of privatisation of service without privatisation of rights and entitlements is not even being explored. The current debate about water privatisation is highly polarised between two well entrenched positions for and against and there seems to be very little attempt to explore the middle ground of seeing water as both a social and economic good.

There are other types of water conflicts that can also be identified, for example, upstream-downstream conflicts, conflicts over hydropower schemes, as also conflicts caused by impact of excess water and floods. However, the purpose here is not to arrive at a neat classification but to identify important issues and find ways of moving ahead. In this respect we would like to single out two major conflict issues that are going to be very important in the coming period; the issue of diversion of allocations of water from rural and irrigation use to industrial and urban use which is symptomatic of a larger issue of transition to an industrial society (Chapter…..), and transboundary conflicts.

There is now growing resistance to the diversion of water from rural areas and irrigation. Faced with a
Box 4.3 Privatisation
Sheonath river flows through Borai in Durg district, Chhattisgarh. This case is about the handing over of
a stretch of the river near Borai to a private firm for supplying water to the region lying between two
district headquarters, Durg and Rajnandgaon. Borai is a newly developed industrial hub, promoted by
the Chhattisgarh State Industrial Development Corporation (CSIDC). Surrounding the Borai region is a
cluster of villages that have traditionally used the river water for irrigation and fishing.

Sheonath river, a semi-perennial tributary of the Mahanadi has been contracted to Radius Water, a
division of Kailash Engineering, for a period of 22 years. Radius Water is managing the water
distribution from the river. The build-own-operate-transfer (BOOT) project was commissioned in 2001
by the Chhattisgarh government.

CSIDC is the regulating authority for the project. One of the clauses in the agreement was that the
villages downstream would get water free of cost; the clause also mentions that “under any cir-
cumstances, the industry will be provided 30 mld of water”.

The conflict did not start immediately. Initially, the locals were not aware that a private firm managed
the new barrage that had sprung up across the river. No prior information was provided about this con-
tract. After a few months, however, Radius Water informed the local fishermen that they were no longer
permitted to fish in the 200 m zone from the barrage (on both sides) for safety reasons. There were a
few skirmishes and employees of Radius Water allegedly destroyed some of the fishermen’s nets. The
latter complained that their catch had dwindled after the construction of the barrage. Farmers who
owned land near the river were also barred from lifting water from the river with motor pumps. This ban
had the endorsement of the district administration, which also banned the installation of tubewells.
People from downstream villages started complaining that the groundwater table had plummeted. Many
villagers from Pipalcheda, one of the surrounding hamlets, insisted that the water level in their wells had
plunged since the construction of the barrage.

With complaints rising, many activists and members of the public launched a campaign against the
project highlighting the fact that by handing over the river to a private firm the state government had
privatised the river.

The pressured government ultimately decided to scrap the deal with Radius Water but according to
reports, despite the supposed termination of the contract the private firm continues to manage the
barrage and supply water to the industries.

The protesters have been questioning how the industries department signed a contract for a river that
legally falls in the purview of the irrigation department. Activists and lawyers argue that the deal violates
the Madhya Pradesh Irrigation Act of 1931 and the National Water Policy, which prioritises agriculture
over industries.

Radius Water on the other hand insists that the upcoming industries at Borai will boost the state’s
economy and that they were merely ensuring that water was supplied to them at a low price. The
company also argues that the construction of the barrage has helped the water table rise by 8 m in
upstream villages, which is sure to help the farmers.

This is an interesting case that has actually thrown open the debate about the rights of communities
versus the rising demand from industry. Governments The main agency responsible for creating friction
is the government which went about the deal in a cloak and dagger fashion. By not respecting the
National Water Policy and the Irrigation Act, they violated laws and are liable to be taken to court. The
contract was signed without setting up regulatory independent authorities that could establish guidelines
under which a private firm could manage a common resource. Source: Adapted from – Das Binayak,
Pangare Ganesh, ‘In Chhattisgarh, a River Becomes Private Property: Privatisation’, Economic and Political
Weekly, February 18, 2006
shrinking water supply, farmers are opposing the diversion of any water to industry. In almost every dam and reservoir, originally built for irrigation, there are now allocations made for urban drinking water and industry, encroaching upon irrigation allocations. This practice is the most evident in projects under construction where irrigation is not yet established.

This diversion is part of a general pattern where industry is given incentives of various kinds in the interest of public good or development or growth. The establishment of Special Economic Zones (SEZs) and displacements due to power projects, including displacement for hydro projects are all part of the same pattern. The general problem is that the resources (especially land and water) that industry and urbanisation need lie in the hands of someone else and industry finds it difficult to acquire these on its own. The state has stepped in such situations and has provided the land and water (and other resources as well) as an incentive to industry and has, in effect, dispossessed people who owned that land and water. In the case of land, since ownership of land is much more visible, the conflict is clearly visible, whether it is in Singur or in the Navi Mumbai airport. In the case of water it is not as visible, but every time an allocation is made that transfers water traditionally used by rural areas and farmers to urban areas and industry, a dispossession takes place.

The transition from agriculture to non-agriculture society which involves reallocation of resources is inevitable. However, a participative mechanism rather than coercive methods are required to achieve beneficial outcome for all. The problem, however, is that the state, due to its entrenched ideas and the venality of its echelons, is becoming an instrument of such accumulation by dispossession in the name of a public good, visibly in the case of land and not so visibly in the case of water. In Maharashtra, for example, the High Power Committee of ministers has brought about such reallocation on an unprecedented scale.

What is required is a more humane and just transition to an urban and industrial society. It is important to find ways and means of making this transition a win-win situation and not a win-lose situation with the farmers and the rural people at the losing end. As an illustration, we could have a water policy where diversion of water to industry is tied to corresponding water savings in agriculture and increase in of efficiency in agriculture for which industry participates by meeting the cost of savings in water and increase in agricultural efficiency.

Similarly, take the case of compensation. There are two ways of working out the value of compensation. One is based on the role that the resources play in the present production system and the other is based on the role they would play in the new systems. There is a vast difference between the two. The former is likely to be traditional and subsistence farming with very low levels of

Historically, the first transition from a non-industrial society to an industrial society, the prehistory of industrial revolution has involved widespread non-economic and coercive dispossession of large masses of farmers and the colonies concentrating capital at one end and propertyless workers at the other.
monetization in which much of the cost is not even itemised (for example, a farmer is unlikely to chalk down the expense of visiting the market when he bought fertiliser as a business expense, and just as unlikely to monetise his land and water access, treat it as an investment and add legitimate return on investment to the cost of his produce). In any case, the resources which for the farmer may represent substantial livelihood source may have an imputed monetary value that may be very small. However, the same resources represent a very high value for the modern industry when they receive it. The right compensation strategy may be to provide an assured livelihood, or at least provide a fair share in the incremental gains generated by new opportunities rather than providing a monetary compensation based on the assessment of unmonetised economic practices.

Given that the diversion of water to industries usurps the right of famers, industries should not be allowed to externalise these costs, and that they should be allocated water only after exhausting all other options like local water harvesting, reuse and recycling, improvement in water use efficiency and so on. The industries should also invest in water saving, especially in the agriculture sector, and only the saved water should be allocated to industries.

Trans-boundary conflicts

Generally the term trans-boundary conflicts refer to conflicts between sovereign countries over water. However, in India, water is a states subject and therefore we have a special class of conflicts called inter-state conflicts or disputes which have the same character. These are basically conflicts based on political boundaries. However, underlying these conflicts there is a a complex mix of all the other kinds of conflicts -- upstream-downstream issues, prior use issues, clash of priorities and allocations, and sometimes non-water conflict as well. An interesting method to resolve inter-state conflicts is to begin by ignoring state boundaries altogether and then trying to re-state the issue. This is not as trivial as it looks because in doing so we need to know what are the generic underlying issues that are getting combined with issues related to the political boundaries, which aggravate and or modify the conflicts further

Most transboundary issues can be solved by both parties through dialogue and discussion. India has negotiated several settlements with Pakistan over water with the help of mediators even while the two have fought wars. However, in India, there is a lack of a good framework and mediating mechanism for conflict resolution both within government and in civil society at all levels. The mechanisms that exist are meant for inter-state disputes, and hence most generic conflicts often become visible only in

---

terms of conflicts between states, obscuring the underlying issues and need for a reasoned dialogue on water issues. For example, it is common for downstream users to distrust upstream dam building and operation and this type of conflict exist within the states and between regions, at scales ranging from village to the basin level. The other important lacuna of conflict management is that our systems are not oriented towards building trust. Often a state may be within its rights to utilise part of its allocated share, but the manner in which it goes about is hardly conducive to building of trust. For example in the case of the Babhli barrage -- Maharashtra may well be within its rights, but then why is it insisting on the right to bypass CWC and unilateral action? On its part it is not clear whether AP is disputing the siting of the dam or Maharashtra’s right to the water that it will store (See Box 4.4). What generally happens is that on both sides of the conflict, state as well as civil society actors play the role of litigants, piling legal argument on legal argument in the hope that one will hit! This loses sight of the fact that water is a shared resource that needs to be shared in a spirit of accommodation and cooperation. This is also the reason why integrated river basin management has not come into existence and that the mandated river basin organisations have just become paper organisations in most cases. In fact, river basin planning is needed even between countries (Chapter 3). Appropriate institutional mechanism to address inter-state issues are river basin planning where the issues be addressed before it escalates out of control.

Transboundary issues are often also a symptom of the lack of scientific approach to water management in India. The science and the policy to deal with water sharing are considerably advanced in recent times. The water management in India is stuck in old concepts, which evolved when water itself was not an issue, but the capital for investment to construct dams was the far bigger constraint. This approach views any water that flows into sea as wasted and the effort is to build dams and retain and use every drop of water that flows in the river. As a result river flows have fallen below their regenerative levels and have practically disappeared in many delta regions, leading to salinisation, salt water ingress, reduction in fish catch, reduction in channel induced recharge and numerous environmental problems. Rivers have to flow into the sea if people and the ecosystems on which they depend are to flourish. Now, since the dam construction technology and finances are no longer constraints it has led to a construction race that aims at capturing every drop of water that one is entitled to.

Box 4.4 Babhli Water Conflict: Less Water, More Politics

The Babhli project, a gated bandhara (check dam or weir) on the Godavari river, is located at Babhli village in the Dharmabad taluk of Nanded district of Maharashtra, adjoining Andhra Pradesh. Babhli is part of a chain of 12 bandharas planned by Maharashtra to store and utilise its share of 1,699 mcm (60 TMC – thousand million cubic feet) of water given by the Godavari Water Disputes
Nor has this been helped by the way the Tribunals have approached the issue of inter state water allocation. Water is allocated on the basis of flows estimated with 75% dependability. In many years the water available is bound to exceed the allocated amount, while in some years it is bound to fall
short of the estimated flow. This variation can be very large, with very high flows in good years and very low flows in lean years. In peninsular India the problem is acute in shortage years. The problem is to evolve modalities for sharing water i.e. of deal with and share surpluses and shortfalls, and the tribunals provide no guidelines on this, primarily because they see it in terms of legal property to be apportioned without taking account of the fact that the stability of 75% dependability flows is theoretical and that the ‘property’ under question is actually fluid and dynamic.

Moreover, there is an asymmetry in water regimes between upstream and downstream areas. Upstream processes can affect the downstream processes but not the vice versa. This creates specific problems with the tribunal allocations. If upstream states create capacity capable of utilising their share of 75% dependability flow, they have the capacity to trap and pre-emptively use a much higher proportion of the lean year flow than is warranted. Similarly when water allocations are made to states, it is assumed that they will in turn allocate water equitably within the state. Unfortunately there is no mechanism to ensure equity within a state. In fact, there are bitter conflicts, much sharper and much larger in scope in intra-state allocation than inter-state conflicts. For example, within Andhra Pradesh, Telangana region is fighting bitterly over ‘illegal’ allocations to other politically more powerful regions and an almost war like situation exists over Pothireddy Padu, Rajolibanda or Polavaram. Maharashtra too has many such examples. Regional disparity and backlog of water resource development in the state is severe and water is a contentious and bitterly fought issue between the backward regions of Marathwada and Vidarbha, and the comparatively better placed South Maharashtra. Focus merely on inter-state conflicts diverts attention from the core issues and converts them into an inter-state sentiment of conflict.

The complexity of the climate change adds another serious dimension to the conflict. While the precise change in periodicity and intensity of the rain fall may be disputable, all models agree on the fact that there will be an increase in extreme events (Chapter 2) – extreme surpluses and extreme shortages – precisely the kind of events for which Tribunal Awards have no solution to offer. There will be no solution to water conflicts unless there is a change of approach: from an adversarial, legal approach which lays claim to a disputed property to an approach that views water as a shared resource, builds common institutions to manage it in common and displays a spirit of dialogue, accommodation and negotiation. Change in approach needed

First of all there is a need to get out of the thinking that views water flowing out to the sea as water going waste. This approach has led to a water management strategy that is centred around dams. The other important lesson is that the water is a resource embedded within the ecosystems which cannot be treated as a freely manipulable resource. Too many of our mega projects, whether big dams, or diversions or interlinking schemes treat water as a freely manipulable resource. This approach has done harm to the long term viability and sustainability of the resource itself. There is a need to change
our thinking in respect of the role of large systems and dams. We need to see local water resources as the mainstay of our water system and need to see large scale irrigation as a stabilising and productivity enhancing supplement feeding into it. For this we need to deliver water in a dispersed manner to local systems, rather than in concentrated pockets creating ecosystem islands dependent fully on exogenous water that can only be maintained at great economic and social cost.

Another important question is who pays for water and how much. We need to first of all realise that so far it is the urban poor, the rural areas and the ecosystems who have paid a much higher cost, directly as well as indirectly for the water especially from public sources. There is a need to develop appropriate pricing framework that is based on the principle of equity and affordability. Two other issues that have emerged are those of rehabilitation of project affected people and pollution. There is an urgent need for a policy and legal framework at the national level for the rehabilitation of project affected people. In respect to pollution, as already discussed above, we need to move to a mix of civil and criminal penalties and introduce environmental mediation as an active method of addressing pollution issues.

**Stakeholder interaction**

The struggles and viewpoints around water issues in India are highly polarized (Joy et. al, 2008). The richness and diversity of bio-physical, social, economic as well as political context in India itself creates a tendency of fragmentation and polarisation leading to long drawn conflicts in which the losers are invariably the vulnerable and weaker sections. What is important is to realise that while there are sectional interests at stake here, there are wider issues on which a social consensus needs to emerge.

On the other hand, there is a need to evolve general guidelines, procedures and institutions that will determine and regulate water use in an equitable and sustainable manner. A social consensus that include not only an explicit recognition of the needs of the poor and the priority they should receive but also the norms that should govern resource uses, their priorities and responsibilities around those uses needs to be built.

One such medium is Multi-stakeholder platforms (MSPs) and interactions. However, if MSPs are to become meaningful and stable instruments of water governance they need to account for the heterogeneity among stakeholders and their prior rights and also will have to be informed by an inclusive and principled approach to water sector restructuring supported by access to reliable data, information and decision support systems and be based on an acceptable normative framework. The

---

challenge is to evolve a consensual framework that will be inclusive enough even as it takes into account crucial concerns like equity and sustainability.