

# India faces severe water crisis: Solve major disputes, clean rivers on priority

By [G Seetharaman](#), ET Bureau | 29 Jun, 2014, 03.20PM IST

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You know how bitter the longstanding dispute between Tamil Nadu and Karnataka over the sharing of the Cauvery waters has become when movie stars of the two states wade into it.

For instance, when Karnataka objected in 2008 to a drinking water project Tamil Nadu was planning in a town close to the border the states share, Tamil actors went on a protest and Rajinikanth, a Maharashtrian who grew up in Bangalore, wondered aloud: "If Karnataka objects to us taking the water that is rightfully ours, should we not teach them a lesson?" The poser invited threats from Karnataka that his films would be banned there.

Whenever there is a legal decision in the matter that is adverse to Karnataka, it is inevitable that cinema owners in Karnataka will stop screening Tamil movies and cable operators will pull Tamil television channels out of their offerings, which last happened in late 2012.

The latest in the conflict is Tamil Nadu chief minister J Jayalalithaa demanding that the Centre set up the [Cauvery Management Board](#) as part of the 2007 order of the [Cauvery Water Disputes Tribunal](#) (CWDT). However, her Karnataka counterpart Siddaramaiah said it cannot be done till the [Supreme Court](#) decides on the states' petitions on the tribunal's verdict, which asked Karnataka to release 192 thousand million cubic feet (tmcft) to Tamil Nadu in a regular monsoon year.

Both the states challenged the order in the apex court, with Tamil Nadu saying it was lower than the 205 tmcft awarded in an interim order. Even Kerala and Puducherry are party to the dispute, though their share is much lower.

## Dispute Across Decades

The Cauvery originates in the Brahmagiri hills of Coorg, Karnataka, and the dispute dates back to two agreements signed between the erstwhile Mysore state and the Madras Presidency in 1892 and 1924.

After the second agreement expired in 1974, Karnataka and Tamil Nadu started sparring on how to share the water and Tamil Nadu demanded the setting up of the CWDT which materialized in 1990, thanks to the apex court's directive. It took the tribunal 17 years to reach its final verdict, but the conflict is unlikely to be resolved soon, given its political implications.

S Janakarajan, professor at the Madras Institute of Development Studies, calls the tribunal's decision "excellent given the circumstances". MB Patil, minister of water resources in Karnataka, denies that the state's stance is determined by political parties' vote banks.

"Every state will have its own interests and we have to protect our farmers. We are willing to hold talks and settle it out of court. Our position has always been that whenever there is water we will release it to Tamil Nadu. Though we are supposed to release only 192 tmcft to Tamil Nadu, last year we released 260 tmcft," says Patil.

The [Tamil Nadu government](#) could not be reached for comment. This is hardly the only river that has been in the crosshairs of two or more states. Karnataka is battling [Andhra Pradesh](#) and Maharashtra over Krishna, and Punjab, Haryana and Rajasthan are locked in a dispute over Ravi and Beas.



*From water-sharing conflicts to failed clean-up attempts, from interlinking to contentious dams, India's rivers could do with some farsighted management.*

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Though water is a state subject, the Centre steps in when there is an inter-state dispute, which is governed by the Inter-State River Water Disputes Act, 1956. Bharat Sharma, coordinator of the International Water Management Institute's (IWMI's) India program, says India can learn lessons from the management of the Murray-Darling basin in south-eastern Australia.

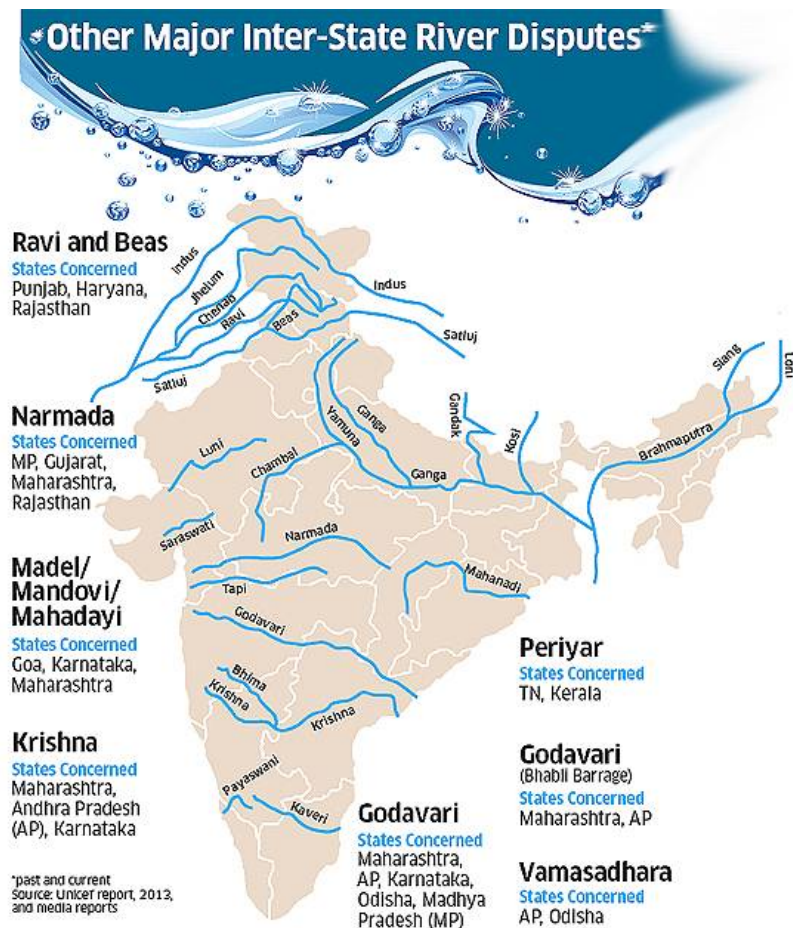
"It's a great example of river sharing and management," adds Sharma. The basin contains the country's three longest rivers, covers 14% of its land area and runs through four of its six states and one of its two territories.

## "Damn the Dams"

No Indian river has been as much in the news in the last three decades as the Narmada, which runs through Madhya Pradesh, Gujarat and Maharashtra. The opposition to the proposal to build 30 large dams on it, particularly the Sardar Sarovar Dam in Gujarat, has been instrumental in the rise of environmental activism and people's movements in India.

With thousands displaced by the dams, which activists claim have also caused serious environmental damage, the river will continue to be the country's most contentious. The Centre recently okayed raising the height of the Sardar Sarovar Dam by seven metres to its final height of 138.72 metres.

Activist [Medha Patkar](#) says the government has not yet rehabilitated those displaced by the dam in the past and that the water meant for irrigation in the [Kutch](#) and Saurashtra region has been directed to industries. "The government does a cost-benefit analysis of dams by understating the costs and overstating the benefits. Not all costs are quantifiable," says Patkar.



## Drier Future

Sharma says that as civil society renews its efforts and water scarcity intensifies, more and more states will want to hold on to their rivers. India's water scenario is looking bleak at best.

For instance, with the increase in India's population from about 1.03 billion in 2001 to 1.21 billion in 2011, the annual average per capita availability of water has gone down from 1,816 cubic metres to 1,545 cubic metres in the same period. This means India is 'water-stressed', which is a tag attached to a per capita availability of less than 1,700 cubic metres.

The situation is expected to worsen by 2025 when India's per capita availability is projected to be 1,340 cubic metres. According to a [Unicef](#) report on India's water scenario, more than fourfifths of the annual run-off of the rivers occurs in the monsoon months of June to September, often causing floods. "However, acute water shortage is faced in many parts of India during the rest of the year."

Even in places receiving more than adequate rainfall like Cherrapunji, among the wettest places on earth, in Meghalaya, the soil may not retain the water long enough to avoid a shortage. Floods are common in northern and eastern India, as are droughts and water shortages in the west and south. It is to overcome this problem that India is planning to link watersurplus rivers in the north and east to waterscarce rivers in the south and west.

The project has its origins in a proposal in the 1960s by technocrat KL Rao to link the Ganga and Cauvery from below Patna. In 1982, prime minister Indira Gandhi set up an agency to explore the linking of rivers.

**Interlinking of Rivers Project**

Estimated to cost ₹5.6 lakh crore in 2002 and much more now, the idea is to transfer surplus water from rivers in the north and the east to river basins in the south and the west	The plan is to have 30 river links and 3,000 storages to connect 37 rivers and create a water grid	Labelled unwieldy and disastrous to the environment and livelihoods, the project hopes to increase India's utilizable water resources by 25%	Championed by the first NDA government, the project was put on the back-burner by the UPA, despite the SC's exhortations to complete it by 2016. The Modi government is keen to push the project ahead
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## Unwieldy Link of Rivers

While the interlinking of rivers (ILR) project had languished in cold storage for two decades, the Supreme Court in 2003, following a public interest litigation, asked for the project to be completed by 2016.

The BJP-led National Democratic Alliance was gungho on the project but when it lost power in 2004, its successor the United Progressive Alliance, was not too keen, despite the apex court asking it to expedite the project in 2012.

Now, the Narendra Modi-led government seems to want to revive the project. "We will do the interlinking of rivers in a manner that it simultaneously takes care of drinking-water/irrigation needs of people and ecological concerns," minister of state for environment Prakash Javadekar told The Times of India earlier this month.

The ILR plans to connect 37 rivers by creating 30 river links and 3,000 storages at a staggering cost of Rs 5.6 lakh crore (as of 2002). Its benefits include irrigating an additional 51.5 million hectares of land, creating 35,000 mw of hydel power potential and increasing the country's utilizable water resources by a fourth.

All the same, it has elicited several questions from its critics. "How does one compensate millions of acres that is going to be deforested? Do states really have surplus waters? Are surplus or donor states really going to be saved from floods?" asks Janakarajan.

Ramaswamy R Iyer, former secretary of water resources, has been harsher. In a paper on the ILR, he wrote: "Rivers are not human artefacts; they are natural phenomena...They are not pipelines to be cut, turned around, welded and rejoined."

## Beyond Borders

IWMI's Sharma believes the project has to first focus on linking intra-state rivers as there will be no inter-state dispute on this. "We have to get our act together on hydro diplomacy before we go ahead with the project. For instance, we need to reach an agreement with China on the Brahmaputra before we link it with other rivers," he adds.

The Brahmaputra originates in Tibet and flows through Arunachal Pradesh and Assam into Bangladesh. India has criticized China's approval in 2013 to three new hydropower dams in the middle reaches of the river, known as Yarlung Zangbo there.

China has reacted by saying its plans are no different from India's. However, construction has reportedly not begun on even one of the 25 hydel projects India has awarded to developers in Arunachal Pradesh in the last decade. India and China do not have a water-sharing agreement.

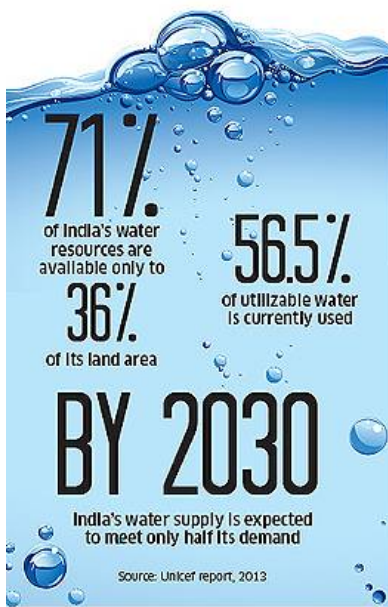
While an ad hoc agreement between India and Bangladesh was put together in the 1980s to share the Teesta waters, former PM Manmohan Singh's efforts to forge a new one were stalled thanks to protests from West Bengal chief minister Mamata Banerjee who feared that allowing more water to flow into Bangladesh would lead to a water shortage in her state.

External affairs minister Sushma Swaraj discussed the issue on June 26 on her visit to Bangladesh, but nothing concrete emerged. "We should find smarter solutions to bilateral water disputes than just simply agreeing to a number on how much water each country is going to get," says Sharma.

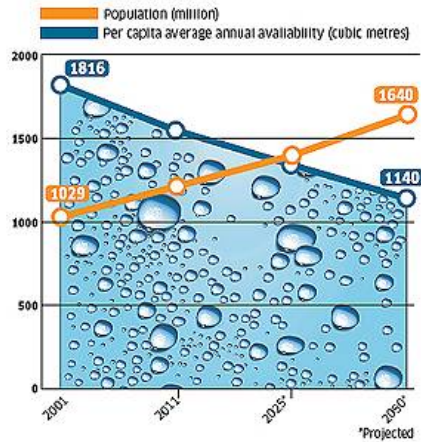
Trans-boundary water disputes are common across the world, since more than 260 river basins covering half the earth's land area are shared by at least two countries.

Former water resources minister Suresh Prabhu says India should work with all its neighbours as partners to develop water resources "for mutual benefit and to avoid ravaging losses." He adds: "Benefit sharing could bring in huge upsides for all as Bhutan now enjoys, getting almost 70% of its total revenues from royalties paid by India (for hydel power)."

Benefit sharing, as opposed to sharing the water itself, denotes sharing 'benefits' such as hydroelectric power, derived from the use of the river, by two or more countries. While Bhutan already supplies power from three hydroelectric projects totalling over 1,400 MW, both countries in April inked a deal to implement four more projects of 2,120 MW.



## India's worsening water scenario



A per capita availability of less than 1,700 cubic metres is a water stressed condition and of less than 1,000 cubic metres is a water scarcity condition

### Unholy Treatment

As worrying an issue for India as the sharing of rivers with neighbours and by states within is the pollution of rivers, particularly its holiest, the Ganges. Modi referred to it as 'Maa Ganga' during his election campaign in Varanasi and vowed to clean it up once he came to power.

Not surprisingly, that is the first issue minister of water resources Uma Bharti has taken up since assuming charge. She has said the government is putting together a cleanup plan and that the private sector is also keen on contributing funds for it.

To say the Ganga is severely polluted is an understatement. Given its religious significance, people throw flowers into it and float flames on it. However, the practice of dumping corpses in the river has been on the wane, thanks to a crackdown by the government.

"The religious angle of the Ganga does make clean-up efforts more thorny. I don't know how the PM will handle it," says Janakarajan. But Kanpur-based environmental activist Rakesh Jaiswal says these are minor sources of pollution compared to the sewage discharged into the river.

More than two billion litres of domestic and industrial wastewater are discharged into the river every day. The Ganga Action Plan was formulated in 1986 and, according to one estimate, over Rs 20,000 crore has been spent to sanitize the river since 1984, but there's not much to show for it.

"Nobody denies that the river should be cleaned up, but it becomes political when you take up the issue of, say, tanneries in and around Kanpur. Since they are high forex earners and are owned by Muslims, the issue is politicized," says Jaiswal.

Yamuna, the largest tributary of the Ganga, is in no better shape, with Delhi said to dump more than half its waste in the river. The government cannot afford to waste any more time in cleansing its rivers, which are already way past the stage where their original pristine nature can be restored.

At the same time, it has to make way for a speedier resolution of inter-state disputes, and beef up its hydro diplomacy at a time when access to water can put you on a geopolitical pedestal with your neighbours.



### Cauvery

**Issue:** Water-sharing, primarily between Karnataka and Tamil Nadu, but also Kerala and Puducherry

The dispute dates back to two water-sharing agreements between the erstwhile Mysore state and the Madras Presidency in 1892 and 1924. After the expiration of the second agreement in 1974, both states fought intensely over their share of the water, and the Cauvery Water Disputes Tribunal was set up in 1990.

In 2007, the tribunal ordered Karnataka to release 192 thousand million cubic feet water in a normal monsoon year. Both Karnataka and Tamil Nadu have contested the order in the Supreme Court. While the Centre has notified the tribunal's order, Tamil Nadu has demanded the setting up of a body to execute the order, which Karnataka has opposed.



### Ganga

**Issue:** Pollution and long-pending clean-up efforts

Cleaning up 'Maa Ganga' was among Narendra Modi's election planks in his campaign in Varanasi and ever since he has taken charge as prime minister, his government has been making all the right noises about it. However, there is little to be inspired by the previous governments' efforts, starting with the Ganga Action Plan in 1986.

Governments have spent over Rs 20,000 crore since 1984 to sanitize the river, but about two billion litres of wastewater is discharged into the Ganga every day. Attempts to cleanse Yamuna, the largest tributary of the Ganga, too have been in vain. Delhi dumps over half of its waste into the river.



## Brahmaputra

Issue: Dispute between India and China

One of the prickly issues in Indo-China relations, the Brahmaputra river has been key to both nations' geopolitical ambitions in the region. The river originates in Tibet before flowing via Arunachal Pradesh and Assam into Bangladesh, with which India has been sparring over another river, Teesta.

While India has been contesting China's recent decision to build three hydropower dams on the Brahmaputra, China has countered that India is doing the same in Arunachal Pradesh. However, India has not made much headway on even one of the 25 hydel projects in Arunachal in the past 10 years.



## Narmada

Issue: Building of dams, particularly Sardar Sarovar Dam, and the environmental impact

The opposition to the Sardar Sarovar Dam on the Narmada, most of which flows in Madhya Pradesh but also runs through Gujarat and Maharashtra, is bound to intensify after the Centre recently okayed the raising of its height by almost seven metres to 138.72 metres.

Activists say that people who have been displaced by the dam — which is in Gujarat and the largest of the 30 proposed major dams on the river — over three decades have not yet been fairly compensated and the dam has wreaked irreversible ecological damage.

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