

uring the monsoon season—is an important tool in drought. The Indian Meteorological Department (IMD) predicts the overall rainfall for each of the 35 meteorological sub-dimensions of the country. However, a drought, unlike other disasters, does not have a sharp onset period; so water use and availability of additional water resources need to be closely monitored.

It must also be realised that water management and conservation methods will fail if unsustainable agricultural and industrial practices are followed. Disaster prevention and mitigation are largely dependent on a sustainable mode of development. Development should be such which least disturbs, diminishes or destroys our surroundings.

Analysts have suggested further measures to check water scarcity:

- The introduction of a rational water-pricing policy to be monitored by an independent body
- Reduction of subsidy on power, which encourages farmers to sink more electric tube wells, thus lowering the groundwater level
- Punitive restrictions on the misuse of water
- Less government participation in water management and more in regulating groundwater withdrawals, both collective and individual
- Massive awareness campaign to conserve water and promote its judicious use

Disputes over Sharing Water Resources

Perhaps the most long standing and contentious inter-state issue has been the sharing of river waters.

Most of the Indian rivers are inter-state, i.e., they flow through more than one state. Due to increase in demand for water, a number of inter-state disputes over sharing river waters have surfaced.

As per the Inter-State River Water Disputes Act, 1956 (ISRWD Act, 1956) when the water dispute arises among two or more state governments, the Central government receives a request under Section 3 of the Act from any of the basin states with regard to the existence of water dispute.

The Central government is required to refer a dispute to a tribunal after it is satisfied that the dispute cannot be settled through negotiations.

The Cauvery Water Dispute

The essence of the Cauvery dispute is a conflict of interests between a downstream state (Tamil Nadu) that has a long history of irrigated

agriculture and has in the process been making substantial use of Cauvery waters, and an upstream state (Karnataka) that was a late starter in irrigation development but has been making rapid progress and has the advantage of being an upper riparian with greater control over the waters. To this dispute Kerala (an upstream state with a relatively modest demand for Cauvery waters) and Puducherry (the lowest riparian with a very small demand) have become parties. In two principal contending states—Tamil Nadu and Karnataka—the Cauvery dispute has generated and fostered strong chauvinistic sentiments among the general public which tend to limit the states' negotiating freedom and flexibility.

The dispute over the sharing of Cauvery waters has a long history and goes back to the 19th century. When the princely state of Mysore wanted to build irrigation projects way back in 1883, it was opposed by the Madras presidency, which later, through the 1892 agreement, made it obligatory for Mysore to seek prior approval from the colonial rulers before venturing into any new projects. As the chief engineer of Mysore, when Sir M. Visweswaraya planned the Krishnaraja Sagar reservoir, the Presidency refused permission. thereupon, Sir H.D. Griffin arbitrated in favour of Mysore. Madras appealed against the decision and the British government brought both the parties to start a fresh dialogue which culminated in the 1924 agreement. This agreement, valid for 50 years, was heavily loaded in favour of Madras and remained a contentious but dormant issue between the two states for long.

Various initiatives were taken by the Central governments at different times to find a lasting solution to this issue, involving the chief ministers of both the states. Nothing much happened. In 1983, a farmers' collective filed a writ petition in the Supreme Court followed by an individual writ in 1984 by a Tamil farmer. At the instance of the Supreme Court, when bilateral talks failed between the chief ministers of the two states, the Central government constituted the Cauvery Water Dispute Tribunal in 1990.

The tribunal passed an interim order (IO) in 1991. The IO said that Karnataka should ensure an annual release of 205 tmcft of Cauvery waters to Tamil Nadu (of which 6 tmcft should go to Puducherry). It also laid down a detailed monthly schedule of releases. The tribunal arrived at the figure of 205 tmcft by taking the average of the flows of ten years from 1980-81, after eliminating abnormally good and bad years. Karnataka felt that the IO was unfair and unimplementable, and

sought to nullify it by promulgating an ordinance for protecting the interests of the farmers of the state. The Supreme Court held the ordinance illegal and the Government of India published the IO in gazette. Opinion in Karnataka was strongly against the compliance with the IO, and the state government took no steps for its implementation. This caused no immediate practical difficulty because there were good rains for three successive years. However, following an inadequate rainfall in 1995-96, Tamil Nadu went to the Supreme Court asking for immediate release of 30 tmcft by Karnataka to save the standing crops in Thanjavur. The apex court asked Tamil Nadu to go to the tribunal with its request. The tribunal ordered an immediate release of 11 tmcft. But this showed no signs of happening. The apex court requested the prime minister of India to intervene and find a political solution by consensus, and failing that, to give his own decision regarding immediate relief.

In 1998, a Cauvery River Authority (CRA) was set up, with the prime minister heading it and chief ministers of Karnataka, Tamil Nadu, Kerala and Puducherry as members. An official level monitoring committee headed by Union water resource secretary was also set up to determine the facts in respect of complaints of non-implementations of the IO and to serve the CRA.

In October 2002, the Supreme Court had directed Karnataka to release 0.8 tmcft (equivalent to 9000 cusecs) of water daily to Tamil Nadu as per the order of CRA on September 8, 2002. Though the Supreme Court, in September 2002, had directed Karnataka to release 1.25 thousand million cubic (tmc) feet of water, it amended its directive, following an order of CRA earlier to reduce the quantum to 0.8 tmc every day on a weekly average basis.

Despite the Supreme Court order, the Karnataka government refused to release water from its reservoirs under any circumstances. Karnataka had in fact started releasing water to Tamil Nadu on September 13, 2002 from Kabini reservoir despite the farmers' agitation against the release, but the suicide of a protesting farmer in Kabini reservoir forced the government to stop releasing the water. Tamil Nadu immediately went to the Supreme Court with a contempt petition against the Karnataka chief minister and four others.

In February 2003, responding to an application from Tamil Nadu government demanding a directive to Karnataka to release Cauvery water for Tamil Nadu, the Supreme Court directed Karnataka to ensure an average release of 4,500 cusecs (amounting to 0.4 tmcft) of water a day from February 7 at Mettur reservoir till the CRA headed by the

prime minister took a decision at its meeting on February 10.

The apex court said that the order of the CRA in this regard would be "final" with the sanctity of a court order.

In its application, Tamil Nadu submitted that postponement of the entire harvest being the result of Karnataka not having released water in accordance with the interim orders of the tribunal, it was not open to it to contend that it had given more water than the quantities allocated by the tribunal for January and February.

The application said that the state had already lost 2.5 lakh acres under samba and the balance area required urgent irrigation supply. The present storage at Mettur as on January 31 was only 2.29 tmcft, which would be totally inadequate to meet the requirements of samba crop, most of which was in the process of withering away for want of irrigation supply.

On the other hand, Karnataka had a cumulative gross storage of 22.428 tmcft, out of which 12.428 tmcft was utilisable storage. Hence the court should direct Karnataka to make good the shortfall to enable Tamil Nadu to sustain at least a portion of the samba crop.

It said the loss of karuvai and samba crops resulted in loss of thousands of crores and had severely affected the agriculture and the farm population in the Cauvery delta of Tamil Nadu besides affecting the agricultural economy of the state and the nation as a whole.

Following the order of the Supreme Court, a crucial meeting of the CRA in chaired by the prime minister, directed Karnataka to release 4,500 cusecs of water per day from Mettur reservoir to Tamil Nadu immediately, and was also decided at that after February 14 Karnataka would release water as per the interim award of the Cauvery Water Disputes Tribunal (CWDT).

During the final stages of arguments before the CWDT in February 2005, the Tamil Nadu government urged the tribunal to pass a final award allocating 562 thousand million cubic feet (tmc ft) of water as its share from the Cauvery to meet the irrigation, domestic and industrial requirements in the state.

Submitting a detailed chart on the availability of water in the Cauvery river basin and the requirement of each state in the basin, Tamil Nadu said that the available waters were not sufficient to meet the demands of all the states and that the tribunal should prioritise the demand. While doing so, the tribunal must take into consideration the irrigation area developed up to 1924; the area developed between 1924 and 1974 as per the agreement; the area contemplated by the

agreement but developed after 1974 and before 1990; and the potential irrigation area created thereafter.

If these factors were taken into consideration, the projected total requirement of Tamil Nadu would be 562 tmc ft of water. (The tribunal in June 1991 passed an interim award of 205 tmc ft of waters as Tamil Nadu's share.)

For Karnataka, the demand based on scientific assessment had been shown to be 175 tmc ft, which would include the requirement of water for irrigation, drinking purposes, domestic and industrial use. Similarly, for Kerala the requirement would be 8.32 tmc ft and 7.266 tmcft for Puducherry.

Tamil Nadu made it clear that the two agreements of 1892 and 1924 were valid and binding, just and reasonable and should form the basis of apportionment. It pointed out that the Indus Commission, Krishna and Narmada water disputes tribunals had all protected the existing irrigation and had applied the principle of equitable apportionment and the Cauvery tribunal should follow the same principle.

Tamil Nadu alleged that all the ongoing projects in Karnataka were without the concurrence of the riparian states as well as the Centre. It has resorted to indiscriminate increase in the area under paddy and perennial crops. Further, these projects were in utter violation of not only the valid and binding agreements of 1892 and 1924 but also in utter disregard to the principles of equitable apportionment.

Tamil Nadu wanted the tribunal to prevent Karnataka from expanding minor irrigation areas and to evolve a suitable mechanism to regulate the main irrigation areas. The state should also be asked to avoid growing summer paddy and rabi semi-dry crops.

The CWDT submitted its report and decision in February 2007. The Central government and the state governments have sought explanation and guidance from the tribunal under Section 5(3) of the ISRWDT Act. The matter is under consideration of the tribunal. Further, party states have also filed SLPs in the Supreme Court against the February 2007 decision of the tribunal and the matter is subjudice at present.

In September 2012, the Prime Minister of India directed Karnataka to release 9,000 cusecs of Cauvery water to Tamil Nadu at the Seventh CRA. Both Karnataka and Tamil Nadu rejected it by calling it 'unacceptable'. On September 28, 2012 the Supreme Court slammed

Karnataka government for not complying with prime minister's direction at the CRA.

On the directions of the Supreme Court, the Centre in February 2013 notified the final award of the CWDT. The notification makes it binding on the government to take note of 'all such orders, directions, recommendations, suggestions etc. which have been detailed in the report with decision for appropriate action. The tribunal had recommended the setting up of a Cauvery Management Board-Authority on the lines of Bhakra-Beas Management Board for implementation of the order. The board would in turn constitute a Cauvery Water Regulation Committee for assistance.

In March 2013, Tamil Nadu moved Supreme Court to give directions to the water ministry for constitution of Cauvery Management Board. In May 2013 the Supreme Court directed the Centre to set up a panel to supervise Cauvery water release. In June 2013, Tamil Nadu filed contempt petition in the Supreme Court against the chief minister of Karnataka for his defiant stand before the Supervisory Committee.

Krishna Water Dispute

The sharing of Krishna waters is a contentious issue between Andhra Pradesh and Karnataka. Krishna originates at Mahakaleshwar and runs to Karnataka and south Andhra Pradesh through Satara and Sangli districts of Maharashtra. Krishna irrigates about 30 lakh hectares of land in Karnataka. Before independence, the then Mysore state (now Karnataka) could use only 26 billion cubic feet of Krishna waters. However, after independence Karnataka began to utilise more and more Krishna water, leading to statewide resentment in Andhra Pradesh.

The Bachawat tribunal was set up in 1969 to find a solution to the dispute of sharing Krishna waters. The tribunal gave its award in 1976. Karnataka, Andhra Pradesh and Maharashtra were allowed to use 700 billion cubic feet, 800 billion cubic feet and 560 billion cubic feet of water respectively. However, the award of the tribunal could not settle the dispute. Defying the tribunal's award, Andhra Pradesh began work on the Telugu Ganga Project requiring additional Krishna waters.

The Second Krishna Water Dispute Tribunal (KWDT-II) gave its draft verdict on December 31, 2010. The allocation of available water was done according to 65 per cent dependability, considering the records of flow of water for the past 47 years. As per KWDT-II, Andhra Pradesh got 1001 TMC of water, Karnataka 911 TMC and Maharashtra 666 TMC. Next review of water allocations will be after the year 2050. As per the final award passed by KWDT-II on November 29, 2013,