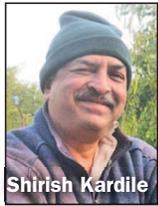


# From the Board

## How Indian Railways Saved a Parched Latur District



Shirish Kardile

Indian Railways' water relief operation in the drought-hit Latur District was one of the largest relief measures in recent years. By January 2016, Latur town's water sources were dwindling. The daily water requirement was 60 mld from Manjara Dam. In addition, there were about 2,500 bore wells. The town, which lies in the Marathwada region of Maharashtra, had faced four consecutive drought years. It was clear there would be no water left for the town and surrounding region by April 2016.

In March 2016, Indian Railways decided to supply drinking water to Latur with the help of local administrators. The nearest logical source with sufficient water was the Krishna River at Miraj, about 350 km from Latur. Indian Railways readied 100 wagons, with a capacity of 50,000 liters each, which had been previously used for ferrying petroleum, crude, and vegetable oil. The wagons were cleaned with acid wash, physical scrubbing, and steam wash to make them safe to carry drinking water.

Local administrators at Miraj laid an emergency 300-mm diameter pipeline from the town's water treatment plant (WTP)

to the railyard in record time. The work was difficult. Without disturbing regular rail traffic, the pipeline had to be routed below the tracks and involved two micro-tunnels. At Latur, a farmer's well with a capacity of 1.7 million liters, about 1.5 km from the railyard, was procured for a reservoir into which water from the wagons could be discharged. A roller-compacted concrete gravity pipeline was laid on an emergency footing from the railyard to that well, which was fitted with submersible pumps to pump the water to a temporary tanker filling station.

Tankers, with a capacity of 20,000 liters each, transported the water to a nearly discarded WTP about 4 km away. Emergency modifications were done to the conventional plant; basically, sodium hypochlorite (bleaching powder) was administered to disinfect the water. Local administrators made this decision to help ensure the water was safe to drink. Another tanker filling station was erected at the Latur WTP to supply the water to various areas in the town. Although the town had a distribution system, the system leaked heavily. A huge amount of precious imported water would have been lost if that water had been run through the distribution system.

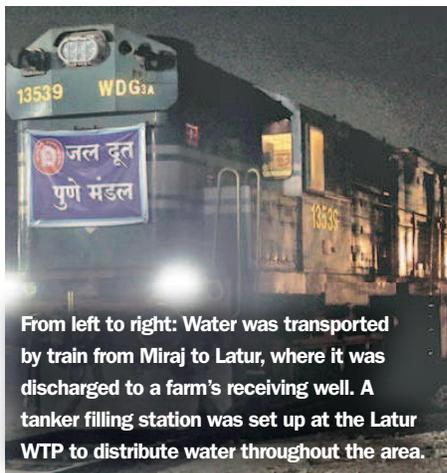
In mid-April, initially a 10-wagon rake started plying the railroad. As the wagon-filling capacity increased later at Miraj, 50 wagon rakes were plying, carrying 2.5 million liters of water twice a day. The operation continued until mid-July, when the monsoon finally became active over the region.

I was in Latur for six days, beginning with the arrival of the first train. A contractor friend managing the water logistics at Latur invited me to make an emergency proposal to rectify Latur's defunct WTP. The temperature was about 45°C at noon. I got only one bucket of water daily in the hotel. It was a difficult experience, but the people survived because of the coordinated day-night efforts of Indian Railways employees, local administrators, contractors, and a dedicated labor force.

It's worth mentioning the reaction of one rail engineer when the first train departed from Miraj to Latur. As he and his colleagues were clicking selfies in the engine room, he clarified, "It's not for fun. We will send these to our officers, so they know we have done our job well and responsibly."

—Shirish Kardile,

AWWAIndia Strategic Board Chair



From left to right: Water was transported by train from Miraj to Latur, where it was discharged to a farm's receiving well. A tanker filling station was set up at the Latur WTP to distribute water throughout the area.

