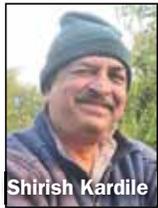


From the Board

Ash Bund Seepage Water Makes Water Treatment Plant Redundant



A thermal power plant in Nashik district, Maharashtra, draws raw water from the Godavari River. There was a continuous outbreak of the hepatitis B virus in a residential colony near the power plant about 20 years ago, because the raw water drawn from the downstream side of the city of Nashik was heavily polluted by untreated sewage. The power plant had to eventually change its drinking water source to the Darna River, which improved the water quality significantly. (The plant still draws most of its bulk industrial water from the Godavari.)

To improve the area's drinking water, a small drinking water supply scheme was commissioned about three years ago in a nearby village a couple of kilometers from the south side of the thermal plant. A carbon steel plant is now in place and using about half a million L/day from the Darna. The intake well is 3–4 km away on the village's south side.

When I recently visited the water treatment plant (WTP), the village headman (known as a sarpanch) told me it runs about 4–5 hours per day.

"How is the quality?" I asked. He responded, "Nothing wrong, clear water, but we don't drink it." Seeing me a bit

perplexed, he continued to explain that the WTP never has been used to produce drinking water.

"Did you see any vineyards (grapes) on the road to the village?" he asked. I confessed I hadn't. He then pointed out chimneys on the horizon.

"The power plant has spoiled our farmlands and our waters," he said. "The seepages and leakages from the fly ash bunds flow to our side due to a natural slope. It finally drains into the Darna River. Over the years, the land has become saline, and we had to shift to other less-paying crops."

The educated headman explained that the area's subsoil and surface water has a high salinity. The villagers had first tried household reverse osmosis (RO) units, but the units didn't substantially reduce the total dissolved solids (TDS). Meanwhile, the villagers ferried drinking water from Nashik.

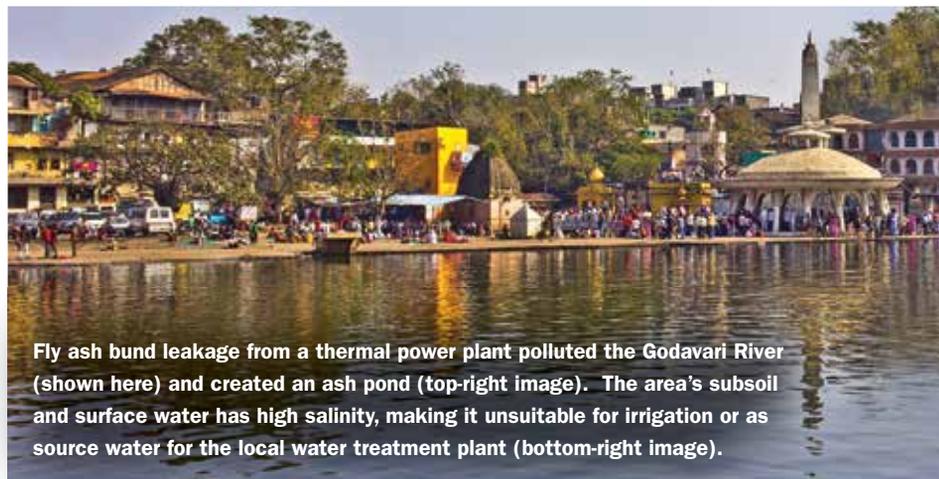
The new scheme's intake well had a type of infiltration gallery. Because the well was new, it was drawing clear water, albeit with high TDS. Although the surface water treatment plant functioned well, it couldn't do anything about the TDS. The villagers refused to drink the water because of the brackish water's taste. The "treated water" from the WTP, which was supplied through the distribution system, was used only for nonpotable purposes in the village.

The villagers had approached the state's energy ministry. It became clear that installing an RO plant was cost-prohibitive, so it was decided to supply drinking water from the power plant complex itself. A new pipeline was laid from the power plant to the village's elevated storage tank, and the potable water has been pumped to the villagers for the last few years. A new distribution system was laid in the village, and stand posts were erected for folks to fill their buckets. Of course, the power plant provides the water for free, as the plant is obviously responsible for the area's water quality damage. The villagers are charged a nominal amount (Rs 500/year per household, or about 9USD) for maintenance.

"Lucky," I said to the headman. He shook his head negatively. "We have ample water. Drinking water is no more a problem. But what do we do about our farmlands and irrigation?"

I had no answer to that. While returning home, I thought about AWWA's mission to promote "Total Water Solutions." Water professionals must understand and manage water in all its stages, and AWWA has the information and experts needed to help. My visit to the plant reinforced for me the importance of protecting irrigation water as part of this mission.

—Shirish Kardile,
AWWAIndia Strategic Board Chair



Fly ash bund leakage from a thermal power plant polluted the Godavari River (shown here) and created an ash pond (top-right image). The area's subsoil and surface water has high salinity, making it unsuitable for irrigation or as source water for the local water treatment plant (bottom-right image).