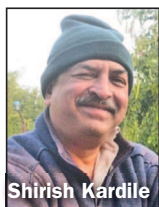


# From the Board

## Sustainable Water Treatment Plants Offer Hope for India's Residents



Shirish Kardile

Vaijapur is a mid-size town with about 45,000 people in the Aurangabad district, Maharashtra, India. Located in the drought-prone region of Marathwada, the town's residents realized around 2012 that their water source, a reservoir near the village of Narangi (3 km from Vaijapur) was insufficient to supply the area's increasing population because of a lack of rainfall in the catchment.

A new water supply scheme was planned and executed between 2012 and 2014. Raw water is pumped from a canal, located 15 km away, running from the Gangapur Dam. A new 12-mld water treatment plant was constructed, as the old plant had become defunct. The new plant consists of a cascade aerator, Parshall flume, flash mixer, clariflocculator, three rapid sand filter beds, chemical house, pure water sump and pump house, chlorine room, and tonner platform.

The president of the Vaijapur Municipal Council (VMC), a medical doctor, and his team had visited a nearby automated water treatment plant at Baramati in the Pune district to better understand the benefits of automation. The Baramati plant's contractor hired a design/engineering firm

to execute the automation job, and the plant was commissioned in March 2014. The average raw water turbidity measured less than 50–80 ntu, and filtered water turbidity less than 0.5 ntu. Alum (commercial aluminum sulfate) is the plant's only coagulant. Satisfied with a year's performance of the Baramati plant, VMC signed a three-year operations and maintenance contract with the same contractor.

VMC educated consumers about the need to increase the tariff for a reliable, quality water supply. Before April 2013, the tariff was Rs\* 900 per year (about 13 USD). For 2014 and early 2015, the tariff was increased to Rs 1,200; however, starting in April 2015, it was increased to Rs 1,600—a flat rate per year per household. (Ultimately, 12,000 house connections are planned). The actual revenue generated between April 2014 to March 2015 was Rs 7,200,000 against an estimated Rs 9,000,000, meaning a staggering 80 percent of consumers paid for their water. VMC is confident it can manage its expenses and make the scheme self-sustaining.

VMC is also trying to improve the distribution network, start water quality monitoring programs, and monitor occurrences of waterborne diseases and related disorders. As a result, the goal of socioeconomic improvements

in the residents' daily lives will be ensured because of a consistent, quality water supply.

The messages from Vaijapur are clear. First, it's high time that policymakers include the word *safe* when discussing public water supplies. Second, India's Central Government Ministries, which plans the country's water infrastructure development, must also consider each scheme's sustainability. Success is only achieved when *safe and reliable* water is delivered to India's residents.

Operators remain the crux of delivering safe water. VMC's operators aren't formally trained, but they learned by virtue of their practical knowledge. Unfortunately, this is the case in most of the country. Thus, operator training and certification is the need of the day. The Central Public Health and Environmental Engineering Organization and concerned Ministries must devise and ensure mandatory mechanisms for this purpose. Otherwise, billions of rupees spent on water supply schemes will not deliver the goods in terms of improved water quality and public health.

—Shirish Kardile,  
AWWAIndia Strategic Board Chair

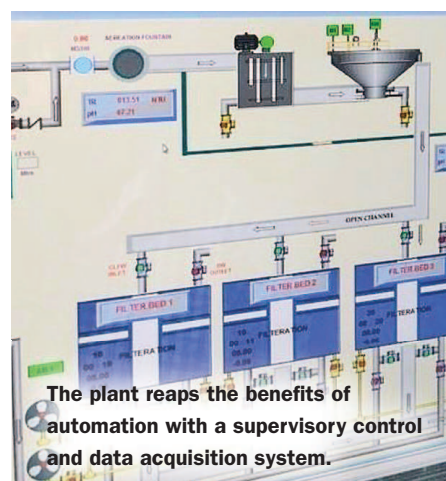
\*1 USD = Rs 68 (2016)



Vaijapur's new water treatment plant provides a safe, sustainable drinking water supply.



The plant includes three rapid sand filter beds.



The plant reaps the benefits of automation with a supervisory control and data acquisition system.