

# Livinguard Technologies: A filter like no other

Rural India is the first to benefit from patent-pending microbicidal tech for safe drinking water



## Social Start-ups: [Livinguard technologies pvt ltd](#)

The Zilla Parishad Kendra Shala is spread across the tiny village of Jamsar. The primary school section is housed in two low-roofed brick structures tucked away near a lotus pond. Turn right from it into a narrow dust path, which leads up to the main road of the village, and you reach the brick structures that house the high school. Close to 175 students—all residents of Jamsar and surrounding villages located in the Jawhar *tehsil* of Maharashtra's Thane district—study in this Marathi-medium school. Gauri Laxman Pagi, a 12-year-old student of class VI, is one of them. Pagi and her friends walk a few hundred metres to another school compound (classes II and III are held here) where *twomaushis* cook the mid-day meal. They then walk back to their classroom with their plates heaped with *khichdi*. After eating, they will walk down to the pond to wash their plates and hands. Up until July, they would gulp down the dregs of a steel drum outside their classroom. This drum would be filled each morning from a nearby well treated with bleaching powder. By afternoon, the water would be over.

Now, Pagi and her friends have a water filter to drink from. Developed by Mumbai-based firm Livinguard Technologies Pvt. Ltd, the filter is designed to clean 100 litres of water an hour and supplies to two taps near Pagi's classroom. Not only does it remove the sand and odour from the

water, it also attacks the microbes in it. This microbicidal technology which uses treated textile was developed by Sanjeev Swamy between 2009-2011. He started Livinguard as a 100% subsidiary of Switzerland-based investment firm Green Impact Holdings in 2011 and a year later, began manufacturing water filters. Since then, the company has teamed up with 16 non-governmental organizations and trust funds, including Swades Foundation in Maharashtra and the Jamnabai Trust for a project in Gujarat, to spread the use of these filters in rural India.

Jayeshwar Gaikwad, a class II teacher, says the filter has made a big difference for the schoolchildren—for one, there is a steady supply of water. Then, there is also a marked improvement in attendance. “Food and water-borne illnesses, such as amoebiasis and diarrhoea, were common among students and they would send message through friends that they were taking the day off. That has stopped now,” he says.

Till a few months ago, Pagi and her schoolmates were among the 128 million Indians who do not have access to clean drinking water. According to a 2013 report by Unicef and FAO, or Food and Agriculture Organization of the United Nations, titled “Water In India: Situation And Prospects”, around 37.7 million Indians are affected by water-borne diseases annually, and 1.5 million children die of diarrhoea in a year. And, as per the Central Pollution Control Board’s analysis of water quality monitoring results between 1995 and 2009, microbial contamination is the predominant form of pollution in surface water bodies, such as the lotus-speckled pond where Pagi washes her plate.

Livinguard does not have a distribution network and prefers to work through intermediaries such as NGOs and the corporate social responsibility arms of large corporations to reach schools, public health centres, even villagers’ homes. In Jamsar, they teamed up with a local NGO Astitva, funded by Mumbai-based Ammada Trust, to provide two filtration systems—one to Pagi’s school, another to the local primary health centre (PHC).

“The results have been visible since Day 1,” says Dr Kiran Patel, one of the two medical officers posted at this PHC. “Every tap has potable water. Within the hospital too, we’ve cut our chances of suffering from salmonella or other bacterial infections that are prevalent in the village.”

Livinguard offers a discount of up to 35% to NGOs. For instance, the filter at the PHC cost Rs.2lakh, but the hospital got it for Rs.1.3 lakh. Swamy adds that they regularly send

samples of their filtered water to a government-approved water-testing laboratory to ensure all is well. “We’ve got no negative results so far,” he says.

Each filter has multiple cartridges to clean three impurities: turbidity (presence of sand, which says Swamy is the “biggest challenge”); chemicals such as arsenic, fluoride, heavy metals; and microbes. While activated carbon is used to attack chemical impurities and a special sand filter helps clean turbidity, their patent-pending textile technology is used to kill microbes. “When the bacteria touches the layers of fabric wrapped around a candle inside the Livinguard cartridge, a short circuit is created due to which a charge is released that destroys the bacteria,” Swamy explains.

For Pagi and her friends, clean drinking water is the first step to protect their health.