Life streaming

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Bangalore Mirror

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Highlights

- When civic apathy peaks and flood-affected are denied rightful relief, IISc student's unique water filter provides life-saving mouthfuls for slum dwellers
- Charcoal, layered cloth, cotton used in 25-litre drum

By Saumyangi Yadav

A student at the Indian Institute of Science (IISc) designed a unique water filter, using coconut shell charcoal activated using table salt, to help communities affected by the recent floods in Bengaluru.

Sharik Sengupta from the Interdisciplinary Centre for Water Research at IISc, also an activist of the All India Students Association (AISA), created the tech. It can filter almost 6,000 to 8,000 litres of extremely bad quality water to a level suited for domestic usage, he told Bangalore Mirror.

Sengupta pointed to the abysmal condition the communities in slums are living in since the floods. "We have provided the water filter to a community in Munnekolala in Marathahalli that had no access to clean water. The people told us that for drinking they are either buying

bottled water or collecting rainwater. For other domestic use, they were using water from a pond. The so-called pond is more like a hole dug into the ground which is now flooded. You can see worms and tadpoles in the water. It was contaminated."

Sengupta added that the filter has been provided to the community which has families of construction workers, sanitation workers who only have access to murky and contaminated water.

"These are migrant workers who come here and help the city to develop; but we channel all the rainwater to their dwellings. It is ironic," he added.

The slum area, where the filter was provided, floods within 10 minutes of rainfall; AISA activists were informed as the residents do not have access to safe water for domestic usage.

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“We, as people working in science, should always be on our feet to put the solutions on the ground when it is most needed. We cannot always wait for the government to work on our suggestions and then later be disappointed about it,” Sengupta further added.

With the help of volunteers from different departments at IISc, Sengupta was able to create the tech. The main component in this filter is charcoal which is a porous substance and really good at filtering water or even air, he explained.

> The water filter can be used as a long-term solution; it is highly cost-effective
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> — Sharik Sengupta, Interdisciplinary Centre for Water Research, IISc

“We increased the number of pores and made finer pores to make an even better filter. We bought charcoal as it is pretty easy to find in the market. Then we did the activation process ourselves by cooking the charcoal overnight. Thereafter we put the activated charcoal in a filter which is a 25-litre water drum. We stuffed the charcoal layered in cloth and cotton to filter out the larger particles,” he explained.

The filtration rate of the filter is 0.5 litres of water per minute. The average cost of the project is somewhere around Rs 2,000 for two filters that can filter 6,000-8,000 litres of water. Smaller filters for personal use can be made for a cost of Rs 100.

BM asked Sengupta if the technology can be used as a long-term solution: “It can definitely be used as a long-term solution; it will be highly cost-effective. However, I cannot get enough volunteers to make so many filters in the long run. This was an emergency response,” he said.