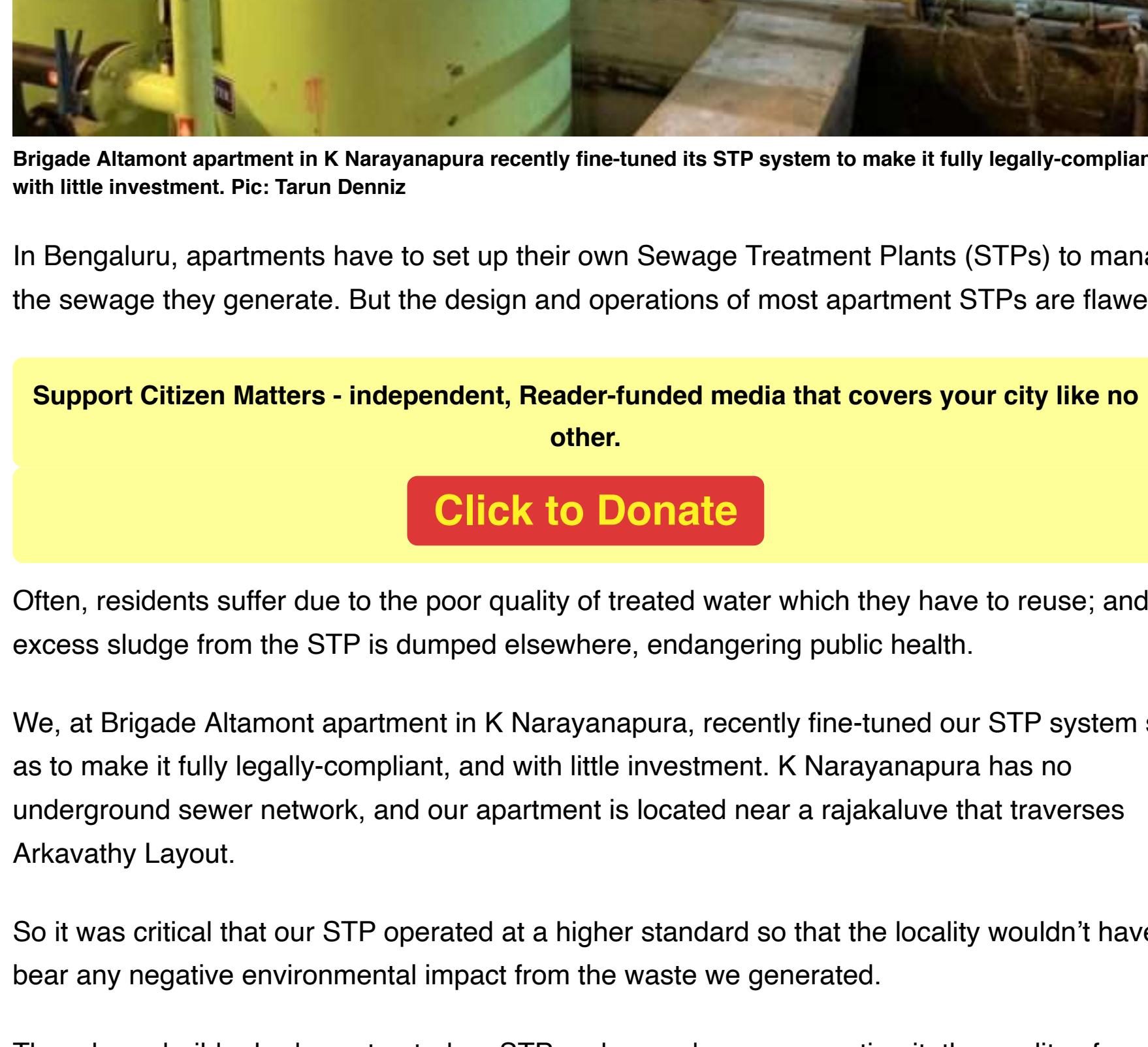


How a Bengaluru apartment fixed its sewage treatment process

February 8, 2021 Tarun Denniz

LEGALLY-COMPLIANT STP

Brigade Altamont apartment in K Narayananpura recently fine-tuned its STP system to make it fully legally-compliant, with little investment. Pic: Tarun Denniz

In Bengaluru, apartments have to set up their own Sewage Treatment Plants (STPs) to manage the sewage they generate. But the design and operations of most apartment STPs are flawed.

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Often, residents suffer due to the poor quality of treated water which they have to reuse; and excess sludge from the STP is dumped elsewhere, endangering public health.

We, at Brigade Altamont apartment in K Narayananpura, recently fine-tuned our STP system so as to make it fully legally-compliant, and with little investment. K Narayananpura has no underground sewer network, and our apartment is located near a rajakaluve that traverses Arkavathy Layout.

So it was critical that our STP operated at a higher standard so that the locality wouldn't have to bear any negative environmental impact from the waste we generated.

Though our builder had constructed an STP and a vendor was operating it, the quality of treated sewage was poor, as indicated by its colour and odour. Residents had to use this water for flushing toilets and for gardening.

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The STP has a **filter press and screw pump**, to convert excess sludge into dry 'sludge cakes' which could be used as fertiliser for crops). But this system was not functioning properly.

The sludge cakes were watery, and there was foul odour, which attracted a lot of flies. We had to frequently hire tankers to dispose of the sludge in landfills, which led to environmental pollution.

Improving STP operations

Brigade Altamont's MC (Managing Committee) members Lukose, Raghavendra, Kamlesh and I took up the initiative to maximise the STP's productivity.

We hired a facility management company to operate and maintain the STP. Aditya Prem, the facility management company expert, worked closely with me, to fine-tune the treatment process.



From left: The STP operator and Aditya Prem with the author. Pic: Tarun Denniz

The STP at our site uses the extended aeration method, also known as Activated Sludge Process. Our STP capacity, as per design, is 160 KLD (kilolitres per day). On an average, the plant treats about 100 KL of sewage daily, which is then reused.

The facility management company streamlined STP operations through measures such as proper dosing of chlorine, maintaining sufficient air supply in the aeration tank, carrying out proper backwash for the filters, etc.

Read more: Faulty sewage treatment plant in your apartment? Pollution Control Board may be liable, not you

They also streamlined the filter press operation so that the sludge cakes could be dry, and the problem of bad odour and flies was resolved. We rarely hire tankers to dump sludge now.

About 80-100 kg of sludge cakes are produced at the site daily, and we supply these to farmers nearby for free. The sludge cakes would have been ideal as manure for our garden as well, but many residents still have not bought into the idea.

A key challenge we faced in the fine-turning process was the fluctuation in the amount of sludge created. Since many residents now work out of home, excess sewage is produced. Unfortunately, we could not predict the days on which sewage would be in excess and control overflow accordingly.

Our filter press is not large enough to convert the sludge into cakes quickly, so as to maintain the levels in the holding tank. This was a slight design flaw of the STP, and the MC and facility management company tackled it.

A poly-electrolyte chemical was used to stabilise the excess sludge in the holding tank. This helped increase the capacity of the holding tank by at least 30%.



The filter press used to make sludge cakes. Pic: Tarun Denniz

We also had to make sure that food particles, as well as inorganic materials such as plastic and condoms, were not drained into toilets, as it would affect the overall performance of the STP.

We now have a fully-functional STP that offers clean treated water and efficient sludge management. But we are unable to use all of the treated water for flushing and gardening, since it is slightly in excess of our needs.

Our next step is to further treat this water in the Water Treatment Plant (WTP), and reuse it in bathrooms and kitchens. Ultimately, our goal is that residents use all of the recycled water for their various needs.

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- ["Fining apartment owners for faulty sewage treatment plants is unjust"](#)
- [What the journey of sewage tells us about lives and livelihoods in Bengaluru](#)
- [Towards water security: How to set up a greywater treatment system](#)
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A self-described earthling, Tarun is a freelance content writer and blogger who's committed to broadening people's views of other cultures. He has spent the last three years writing helpful and inspiring travel posts for parents with young children on his blog 'Travel Clans'.



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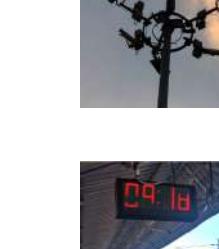
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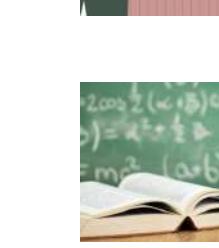
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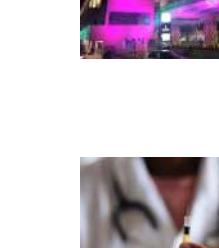
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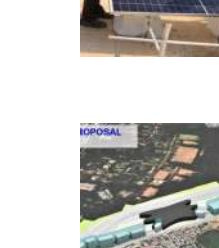
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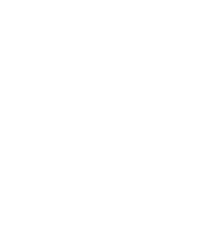
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