

Gray Matter

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CAPITAL CONNECTION

She dabbles, demurs and refuses to meet press even in conversation. Presenting the off-camera side of Rati Taneja King in Focus, page 12

TOP-OF-THE-MIND READING

CITY LIMITS

FLOW CHART

3800 million litres
Mumbai's daily water requirement

3300 million litres
The BMC's daily supply of water

2700 million litres
Mumbai's daily sewage output

60 per cent
The amount of Mumbai's sewage that can be recycled

Rs 1329.5 crore
The cost of the Middle Vardha project that will supplement fresh water supply

Rs 3 crore
The cost of the waste water treatment plant at Wori

As summer and water shortages creep up on us, the city needs to take a serious look at recycling water, for we're running out of alternatives

Rishel Lopez
Mumbai

FIVE DAYS from now, on March 22, the world will observe World Water Day and this year's theme is Coping with Water Scarcity. Countries across the world will review global initiatives on reducing water scarcity and spread awareness about conservation in areas where water shortage is high.

Why should you care? Because water is both an offender and a victim. When it comes to daily availability of water, Mumbai ranks third in a World Bank list of 27 worst performing cities, with only Delhi and Chennai facing worse. And even as a WHO report states that one in three Mumbaiers has no access to safe drinking water, 22 per cent of the water—700 million litres—is lost in pilfering or leakage and roughly 2700 million litres of the city's sewage goes untreated and unrecycled every day.

'SWITCHING TO RECYCLED WATER IS NOT EASY BECAUSE IT IS EXPENSIVE AND PEOPLE ARE APPREHENSIVE ABOUT USING IT'

ULHAS DIWKAR
of BMC's Watersheds Dept

Gray areas

A major part of Mumbai's sewage consists of gray water—recyclable wastewater from both rooms, kitchens and other domestic areas, which is cheaper and easier to purify than industrial effluent. Gray water, when recycled, is not potable, but can safely be used to flush toilets, water plants and wash cars. And with every drop of gray water used, a drop of BMC-supplied fresh water saved. Recycling systems across the world estimate that 30 to 40 per cent of a city's water supply can be reduced if it were to recycle its gray water.

At Rs 500-600 crore, India's sewage treatment industry has both public and private players offering solutions for municipal corporations and corporates and domestic users. Some of Mumbai's five-star hotels and new commercial complexes already have water recycling plants installed. And Kangerkar's Navoi Civilian Housing Colony currently recycles 1 lakh litres of gray water every day, which means the need water from four lower water tanks and save up to Rs 1,600 on their daily water bills. That works out to more than Rs 5 lakh saved a year.

The fresh catch

So why is your water still going down the drain? "Switching to recycled water is not easy," says BMC's waterworks department head Ulhas Diwkar, while commercial establishments can afford the technology, it is too expensive for residential areas. "People are also apprehensive about recycled water, so it is not viable right now," he adds.

Private players pour in their own views. "Dieses that carry recycled wa-

ter to toilet cisterns and garden taps are separate from the ones that supply fresh water to the kitchen, as are pipes carrying waste to recycling plants and the sewer. So setting up the plant involves re-plumbing the entire building," says VV Satyanarayana, head of the technical division at Ion Exchange, a company that sets up water treatment and recycling systems for residential, commercial and industrial establishments and has completed 25 projects in Mumbai.

It also means that residents pay Rs 25 lakh to install a plant for a society of 10 flats, not to mention the electricity and maintenance bills thereafter. "It is easier to convince commercial establishments to set up a recycling plant because they pay more for water," says Satyanarayana, "but as fresh water is already subsidised for residential use and freely available through most of the city, people don't seem to realise what a precious resource it is."

It is only in areas where piped water is scarce and water tanks are regularly used that companies like Ion Exchange see a high return in recycled water.

Stagnating solution

The government, meanwhile, is doing little to promote water recycling. Old buildings wishing to switch to dual plumbing with on-site recycling systems receive no aid or incentives from the BMC. New constructions now receive subsidies for installing rainwater harvesting units but get no support to set up recycling plants even though the latter reuse wastewater on a daily basis.

Narendra Lodha, senior vice president at Kalpataru Properties, says all their new properties in

Mumbai come with dual plumbing and waste water treatment plants, though this drives up not only construction costs for the builder but also maintenance costs for flat owners, as they pay for the electricity and day-to-day operation. "If the government is keen on promoting recycling, it should subsidise the cost for residential buildings. Not many people are likely to pay more when fresh water is cheaply available," Lodha says.

For the Mumbaier who is already prepared to pay more for locally processed sewage than fresh water, the bad news doesn't end there. At Wari's Rs 2 crore waste water treatment plant at Love Grove, trials are on to test the quality of the recycled effluent before making it accessible to Greater Mumbai for watering plants, cleaning public areas, flushing and washing cars.

Though the plant expects the water to be ready in the next two months, it's not more than a trickle of hope. "Hardly 10 to 5 lakh litres will be available per day and because it has been processed, it will be more expensive than residential tap water," says A Marudane, the plant manager.

Going with the flow

However, citizens' attitudes remain the biggest challenge. Satyanarayana explains that though it is more possible to convert gray water into even better quality than drinking water, few people want to associate with what was once sewage. Regions like the Middle East have opted up to the recycled water concept, but areas like Singapore haven't. "Their government recycled water meets all WHO specifications, but the people are still wary. Water has to be pumped back into the river so that it enters the city's supply. Technology is not the limitation, the human mindset is," he says.

But with an ever-expanding city and ever-depleting groundwater resources, that mindset will be forced to change sooner than you think. "Mumbai's growth is all vertical and there are new constructions every day. Why would we let the water for them come from and how will our existing sewerage system take it?" Satyanarayana asks.

"Indians we put back what we take from the earth, we are going to choke on our own sewage,"

—Rishel Lopez@hindustantimes.com



'WITH NEW CONSTRUCTIONS AND NO UPGRADES IN OUR SANITATION, MUMBAI IS SOON GOING TO CHOKO ON ITS OWN SEWAGE'

Y A SATYANARAYANA
of Ion Exchange

'IF THE GOVERNMENT WANTS TO PROMOTE WATER RECYCLING, IT SHOULD SUBSIDISE INSTALLATION COSTS FOR RESIDENTIAL BUILDINGS'

NARENDRA LODHA
of Kalpataru Properties

A DRAIN ON YOUR RESOURCES

Here's how much water an average family of four uses every day

- Showering for 15 minutes: 450 litres
- Washing hands and face with the tap running: 200 litres
- Brushing teeth: 46 litres
- Flushing the toilet: 138 litres
- Washing dishes and vessels by hand: 180 litres
- One load of clothes in the washing machine: 170 litres
- Enough to fill 1,350 bottles of cola
- Enough to fill 450 glasses
- Enough to fill 92 milk bottles
- Enough to fill a personal-sized bath tub
- Enough to fill a small refrigerator
- Enough to fill a jammed shopping cart

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