RIVER POLLUTION · URBAN RIVERS

"River Rejuvenation" in Indore – Mendacity Displacing Common-sense

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Guest Article by Rahul Banerjee

A laudatory article appeared a few months ago (April 2020) about how an IAS officer had cleaned up a 2 km stretch of the dirty Saraswati River (tributary of river Kahn or Khan) in Indore and it was brought to my notice recently[i]. The article claimed that this 2 km of stretch of River has been made "100% sewage free" "by treating inflow from 28 sewage lines through a fully functional Sewage Treatment Plant (STP)".

The fountains are dry as there is no treated wastewater to run them with. Indore. Photo in Nov 2020 by Rahul Banerjee

Now, I frequently cross this river and I had never seen it clean and I was sceptical. So I went and checked (on Nov 27, 2020) the section of the river that had supposedly been rejuvenated and found the river was as dirty as ever.

Actually almost none of the Sewage Treatment Plants (STP) to which the urban waste water had been diverted are working and they are instead mostly bypassing the wastewater into the river untreated. This is because the operating expenditure of running an STP is very high. So STPs are built and rarely operated. On an average it costs Rs 20 per kilolitre to treat sewage wastewater to the prescribed standards for release into the river. The prescribed standards are: 10mg/l of Biochemical Oxygen Demand and MPN counts[ii] of less than 2500/100ml for coliform bacteria. Actually the standard of BOD for potable water in a stream is 3mg/l but since this is very costly, the standard has been diluted to 10mg/l for release into a river while it is 30mg/l for reuse in gardening or flushing of toilets.

Indore generates 400 million litres per day of sewage waste water. So the daily expenditure of cleaning this water at the STPs, some of which are decentralised and small ones situated along the course of the rivers while there is one big one at the end of the city at Kabirkheri of 335 MLD, is Rs 80 lakhs. This amounts to an anuual expenditure of Rs 292 crores, which would be 23% of the current annual revenue expenditure of about Rs 1270 crores. Indore is anyway deficient in properly providing many other municipal services. This is why the STPs are not being run in Indore. In fact, this is the case in most cities in India and so our rivers are never clean except in such mendacious articles. The pictures I took on this visit are given here. They tell the true story of the sordid state of the Saraswati River in Indore.

The impounded untreated waste water has eutrophied and is covered with vegetation. Indore. Photo in Nov 2020 by Rahul Banerjee

Folly of mixing Grey and Black water – Actually it is a big folly to have centralised sewage systems carrying both the much larger quantity of grey water from bathrooms and kitchen and the far lesser quantity black water from the toilets mixed together to be treated in STPs and so increase the costs beyond control.

It is far easier to treat and reuse the waste water from the bathrooms and kitchen, which is less polluted, in a decentralised manner for gardening and flushing of toilets. This will not only bring down substantially the cost of waste water treatment but will also bring down the demand for potable water which is now being criminally wasted in flushing toilets and gardening which together constitute 50% of the total potable water demand currently.

The black water from the toilets can be digested in biogas plants in a decentralised manner to produce energy and manure instead of polluting the environment. Moreover, this decentralised treatment can be done by most households and offices themselves obviating the need for huge sewage systems and STPs. A massive financial burden will be taken off the municipal bodies, which will only have to take care of the public toilets and the wastewater from the slums. This kind of a decentralised system has been implemented in the office of the Dhas Gramin Vikas Kendra in Indore[iii].

However, mendacity rules over common sense in wastewater treatment also as in the case of most planning in India and so our rivers and most other water bodies continue to be dirty.

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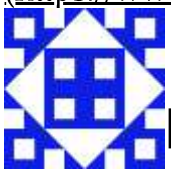
The weir constructed to impound the treated waste water is now choked with garbage and vegetation. Indore. Photo in Nov 2020 by Rahul Banerjee

END NOTES:

[i] https://www.thebetterindia.com/224049/ias-hero-indore-saraswati-river-revival-restore-sewage-clean-river-water-environment-india-gop94/ (https://www.thebetterindia.com/224049/ias-hero-indore-saraswati-river-revival-restore-sewage-clean-river-water-environment-india-gop94/)

[ii] The most probable number (MPN) is a statistical method used to estimate the viable numbers of bacteria in a sample by inoculating broth in 10-fold dilutions and is based on the principle of extinction dilution. It is often used in estimating bacterial cells in water and food. https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/most-probable-number (https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/most-probable-number)

[iii] https://www.youtube.com/watch?v=Idy-QFHU_mI (https://www.youtube.com/watch?v=Idy-QFHU_mI), https://www.facebook.com/watch/?v=10154914941893731 (https://www.facebook.com/watch/?v=10154914941893731)



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