

## Urban Local initiatives and government responses: A case of Dev Nadi in Pune

Most rivers and streams in urban India are dead or on the verge of collapse. With a very few and rare exceptions, these once-beautiful water bodies have been encroached upon, sources dried up or converted into sewage drains all over the country. Water is being sourced or pumped from sites upstream of the city for its needs or from long distances and the city administration has little incentive for cleaning its own muck. The dismal figures of urban sewage treated by sewage treatment plants, their installed capacity and efficiency stand testimony to this. In many cases like Pune, Pollution Control Board has filed cases against the Pune Municipal Corporation (PMC) for not treating city sewage and polluting the water bodies. The Pollution Control Board in turn, does not have a single success story of curtailing river pollution from municipal or industrial sources or restoring a polluted river to its unpolluted state.

Thus Cities have classically 'turned their backs' on their own rivers and streams (Nallahs). Property prices next to rivers and nallahs are relatively low, but still attractive enough for the urban decision makers. At the same time, most of the authorised/ unauthorised slums are located on the banks of these polluted and stinking waterways. Urban disconnect with water sources is also increasing, with dams tapping water sources and degrading rivers farther and farther from the city. Delhi now wants to get water from the Renuka Dam, 315 kilometres from the Capital at the price of 3900 crores, its current sources include Bhakra dam, Tehri dam and Hathnikund barrage. Pune, after exhausting four dams (Khadakwasala, Panshet, Warasgaon, Temghar), now plans to get water from Bhama Askhed Dam, which was originally planned for irrigation, laying a 50 kilometres pipeline at Rs 100 crores; Bangalore gets 80% of its water from Cauvery from a distance of 100 kilometres from the city. Sources of water from the cities like lakes and streams, which once supplied water, are now relegated as sewage drains. Water now is seen coming solely from the tap.

In such a scenario, initiatives taken by citizen groups to protect and restore their streams should be a welcome and remarkable change, worth high lightning. But, in the city of Pune, something very different is happening.

Pune receives around 165 lpcd (litres per capita per day) water through four dams constructed in the upstream of the city. Sewage generated is about 451 MLD (Million Litres per Day), of which around 60% is claimed to be treated. The city has received funds from the Jawarharlal Nehru National Urban Renewal Mission for 'River Restoration and Storm water treatment'. Of this amount, about 200 Crores has been earmarked for stream/nallah restoration. Interesting to note here is the fact that Pune does not have a separate storm water drainage

system and all the natural streams in the city are considered to be storm water drains creating a fuzzy picture. When the reports mention 'desilting and strengthening of primary drains in the city', they may as well mean channelization of natural streams. Funds from Asian Development Bank are also being used for channelization and 'beautification' of rivers and streams in Pune.

Pune lies in the watershed of Mula-Mutha Rivers, with numerous small streams and rivulets meeting these rivers. One such rivulet is Dev Nadi in Baner, which flows for a mere 20 km, before meeting the Mula River. Source region of the Dev Nadi lies at the foot of the NDA hill Complex and is the roosting site of Black Ibis, a bird species. In a sudden spurt of development in the late nineties, the Baner-Pashan area of Pune saw huge residential complexes coming up in an area which was originally a scrub forest and grassland. Rich wildlife was now contained along the banks of streams and rivulets like the Dev Nadi.

The Concord Proxima housing society is one such complex situated right next to Dev Nadi. It houses about 100 residents. In Concord Proxima, under the leadership of Dr. Anupam Saraph, the first Chief Information Officer of Pune, residents make it a point to work along their rivulet on Saturdays, planting trees, weeding and making the small stream bank a vibrant community interaction hub. It also acts as a fun environment education site, with children learning about their water, trees, birds and amphibians in their backyard.

In November 2009, Magsaysay Award winner Shri Rajendra Singh visited the site and praised these community efforts. He advised the community to set up small check dams/ bunds in the rivulet to slow down the flow and facilitate groundwater percolation. This is important as Baner area has been facing water shortage and water supply through tankers is common. The residents, through *Shramadan*, did actually set up a small check dam on the river and have been managing and repairing it for the past year. They had to follow up intensively with the Municipal Corporation to help them with tree plantation along the rivulet to set up a small 'Dev Rai' or Sacred Grove. The area now has about 1200 native trees, specifically suited for river banks.

It was a rude shock for them to learn that the PMC, under the JNNURM program plans to (and has started) channelize the entire stretch of Dev Nadi. This means that the naturally undulating rivulet will be converted into a drain, and also totally eaten up by pipes, with a road above it, at stretches. This means that the efforts of the community of setting up a bund, tree plantation, and acquired environment awareness will be totally lost.

Before turning this into a community-PMC issue, we have to understand whether 'Channelization' is actually a panacea for any problem. Channelization involves dredging and straightening of the channel and then reinforcing it with concrete, converting a living stream into a drain. Channelization acts to force as much water as possible away from an area in a short period of time and hence is a preferred option of engineers. It incidentally also involves a lot of construction work.

In the process, channelization:

1. Cuts the longitudinal connectivity of the water body with its floodplains, leading to water logging in some areas and falling groundwater tables in other areas.
2. It increases the velocity and 'scour' of the water, leading to increased erosion, sedimentation as well as flooding downstream.
3. It opens up river bank area, which is protected under the Pune Development Plan, which is very conveniently used by huge residential complexes as well as slums.
4. It affects and prohibits natural purification of water through the riparian area, which is now estimated to be of a great economic value
5. It totally destroys the natural habitat and therefore the biodiversity along the stream
6. Riparian flood plains act as natural reservoirs of flood waters, containing them considerably and then releasing it gradually back into the stream. Channelization negates this.
7. Dissolved Oxygen (DO) stress is common in channelized sections and if all the streams of the city as well as the river are channelized DO can reduce significantly.

All in all, channelization, though seen as convenient and lucrative to the engineers, is detrimental to the water body and can actually compound problems in the longer run.

Despite this, channelization can be one of the many options for storm water drainage in a heavily populated area, with existing slum population and a highly polluted/unsteady stream. This is not the case with Dev Nadi which is still a relatively pristine, minimally polluted stretch of river. Interesting to note also that many buildings along the rivulet have been constructed right next to the water channel, without leaving the mandatory 10 meters stretch on both sides. Channelization would be good for them and other such law breakers. So whose interest is the Municipal Corporation trying to protect? A sustainable community initiative's or that of the emerging land sharks?

The community, deeply perturbed by this decision, held an Area Sabha in the location on the 29<sup>th</sup> August, 2010.

Along with the residents of the Concord Proxima and Gera Emerald, a number of citizens, environmental experts, students, reporters, etc., attended this Sabha. Some of the resolutions passed were:

The budget of Rs 200 Crores for Pune's streams, starting with Dev Nadi, should be used to:

1. Build check dams with a gabbling along 100 meters of the stream to implement 'Stop the Water, Increase percolation of water' Program
2. Build a wall (or a fence), ten meters from the channel of the rivulet to demarcate 'River Protection Zones' and protect the rivulet
3. Check the leaks of the sewers along the streams/ rivulets
4. Plant trees with advice of groups working on these streams, to ensure that they become perennial
5. The government should participate in peoples' programs. Over ten groups are working on streams and water bodies in Pune, they should not only be consulted, but also involved in all interventions of the water bodies in Pune along with residents of the local areas
6. All capital projects undertaken in any area, should be referred and undertaken with the advice of Area Sabhas before tendering
7. The PMC should ensure water delivery for all these areas for at least four hours, with full pressure.

**It is unfortunate to witness that Municipal Corporations are more than eager to work on 'capital intensive' projects, while neglecting the severe problems caused by encroachments. Let us hope against hope that this very rare endeavour of city dwellers trying to reconnect with their lifelines will not be sabotaged, but will grow and blossom, becoming an inspiration for many such initiatives.**

The Additional City Engineer, Water Supply, after visiting the area has promised on September 17, 2010 to 'consider' this initiative, also stating that getting rid of encroachments (no slums, all plush apartment complexes) on the *Nallah* side will be not be possible, if they have been passed by the PMC. So instead of taking a firm stand against these permissions, PMC will turn a Nelson's eye towards constructions that are next to the *nallah*, and accept them as *fait accompli*, maybe leaving small stretches in natural condition, as a compensation for such initiatives. Actually such marginalised natural stretches can face faster degradation and erosion as the velocity and scour of water coming from the channel is very high. It was stated that the main aim of PMC is to increase the 'carrying capacity' of streams through 'capital intensive' projects like the JNNURM. The question of whether a natural stream, with 10 meters left as green zone, has a lesser carrying capacity than a channelized *nallah* remained unanswered. It is unfortunate to witness that Municipal Corporations are more than eager to work on 'capital intensive' projects, while neglecting the severe problems caused by encroachments.

Let us hope against hope that this very rare endeavour of city dwellers trying to reconnect with their lifelines will not be sabotaged, but will grow and blossom, becoming an inspiration for many such initiatives.

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