

PMC plan will kill rather than rejuvenate rivers

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Rivers are an important part of hydrological cycle and are vital for survival of freshwater organisms like us FILE PHOTO

Not a single rupee is being spent on treating sewage or improving water quality to support its ecosystem

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A river is not just a flow of water, but also a flow of energy. This energy facilitates the exchange of matter and energy between the water, the land, and the biotic elements along the river. In a pristine river, this exchange generates various ecological services such as photosynthetic food production, nutrient transport, decomposition, seed dispersal, groundwater recharge, and others. These are the life-sustaining services of the planet; they are the reason why the human race is alive. These services are not just for humans, but every organism is entitled to benefit from them. No government has ever paid a single penny to avail of the services.

Rivers are important components of the hydrological cycle and are vital for the survival of freshwater organisms like us. And yet, in our enthusiasm to beautify them, we completely disregard the riverine ecosystems and spend money on reducing the ecological productivity of the river. The River Front Development RFD project undertaken by the Pune Municipal Corporation PMC is destined to do just that – degrade the ecosystem functioning of the river.

The proposed project has plans to bind the rivers with constructed embankments and create artificially manicured landscapes. The project proposes concrete ghats, build channels, walkways, and parks, each of these elements will destroy the natural banks, arrest the exchange of matter and energy, and reduce the river to a channelised flow of polluted water.

Surprisingly, not a single rupee is being spent on treating sewage or improving the water quality. The primary, non-negotiable condition of ecological productivity is that of clean water. If this is not fulfilled, the river ceases to exist. The Environmental Impact Assessment EIA done by the State Environment Impact Assessment Authority SEIAA clearly says that water quality must be improved. Yet it has not objected to the zero budgetary allocation to water quality improvement.

The detailed project report DPR is full of such plans that will not allow the river to function like an ecosystem. The vision of the project (mentioned in the DPR) is to create a "Safe, Clean, Beautiful, and Integrated River edge for Pune". The objectives do not mention riverine vegetation, aquatic life forms, the river as an ecosystem, or ecosystem services. The DPR proposes constructed embankments using stone, tar, plastic, and cement which are titled 'riparian embankments'. This is a misuse of the term "riparian" as none of these designs can scientifically be described as "riparian". The DPR proposes such embankments of a total bank length of 88 km, which will be artificially built. The embankments will use compacted soil, but there is no mention of where the soil will be sourced. The list of plants Page 187, DPR neither proposes all native vegetation, nor habitat-specific riparian vegetation. River banks must have habitat-specific vegetation for ecosystem functioning.

Another example is the proposed construction of four barrages on the river. There is no consideration of how they will obstruct the free movement of aquatic fauna and floating aquatic vegetation and neither is there any attempt by the SEIAA to probe the effect of these barrages on aquatic life. Moreover, the DPR proposes changing the naturally jagged edges of the river banks and flattening the river bed in some places. This is another attempt to change the river into a channelised flow of water.

If the DPR is followed to the dot, the rivers will be devoid of the diversity of physical habitats and this would inevitably lead to the decline of biodiversity of the ecosystem. The proposed built structures will reduce natural habitats of fauna, breeding grounds of aquatic life, and floral diversity. This will degrade the riverine ecosystem, and consequently its ecological productivity declines.

Unique physical diversity can be found upstream of Vitthalwadi. Here, the river has grassy clumps, pebbles, cobbles, sand deposits, rocky potholes, freshwater springs, marshlands, and a canopy of trees. They provide perching places, breeding habitats, food zones, and safe roosting sites for fauna. This physical diversity leads to a thriving biological diversity and a natural food web is established in the river.

This contributes significantly to ecosystem services. The primary condition for this is clean water, which has healthy dissolved oxygen. Such areas must be protected, old-grown trees must be retained, and the jagged banks must be preserved.

Every river, so endowed, can purify water as it travels; however, the scale of sewage that Pune puts into the river is monstrous. Without treatment, this can never be assimilated by the river.

Artificial embankments can restrict groundwater percolation, and block the natural springs that feed the rivers. The relationship between surface water (rainfall) and groundwater, in rivers, is complex. There is no consideration of this in the DPR and the project does not mention what will be done with the natural springs. Puneites are fortunate that Mula, Pawana & Mula-Mutha still have many ecologically rich areas, despite many interventions. The DPR does not identify such sites, and a drawing board treatment is given throughout the river.

There is no substitute for a healthy, intact river or stream, where no portion of the ecosystem is impaired. When planning for a natural ecosystem the first responsibility of planners is to preserve water quality, hydrology, riverbanks, and riparian vegetation with buffers that will protect the river or stream from the damaging effects of new development. Unfortunately, the PMC intends to spend over Rs 4,727 crores on infrastructure that will degrade the ecosystem, wean it away from other life forms and turn it into a recreational infrastructure. This might be good to look at, but in the long term, will certainly leave Puneites with a much poorer natural environment.
