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RECLAIMING THE RIVERFRONT: A CITIZEN-CENTRIC, DECENTRALIZED PROPOSAL FOR POLLUTION MITIGATION IN THE MULA-MUTHA RIVER SYSTEM

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Abstract

Pune's Mula-Mutha river system is facing an environmental crisis, driven by aggressive urban growth, millions of liters of untreated municipal sewage, and continuous industrial discharge. Grounded in the statutory duties outlined in Articles 48A and 51A(g) of the Constitution alongside the Water Act of 1974, this paper assesses the real-world condition of the river basin. Drawing on direct field visits across heavily impacted urban stretches—such as Vitthalwadi, Bund Garden, and open stormwater nullahs in Viman Nagar—this study highlights the gaps in local administrative oversight. To tackle this, the paper presents a citizen-centered, decentralized action plan that combines ward-level wastewater treatment, biological filtration, and active community monitoring. Ultimately, it offers a practical, community-driven roadmap for reviving polluted urban waterways across Indian cities.

Keywords: environmental governance, civic action, wastewater remediation, urban ecology, public participation

People, Power, and the Mula-Mutha: How Pune's Citizens Can Bring Their River Back to Life

Living right here in Pune, watching what has happened to the Mula-Mutha over the years is heartbreaking. Our city's rapid expansion has taken a brutal toll on the river system, turning what used to be a natural lifeline into a dumping ground for untreated domestic sewage and industrial waste.

If you look at the Pune Municipal Corporation's Environment Status Report (PMC ESR, 2024), the numbers tell a alarming story: Pune generates nearly 980 MLD of wastewater every single day, but our local treatment plants can barely process half of that load. As a result, hundreds of millions of liters of untreated, polluted water spill directly into the riverbed day in and day out.

Stretching roughly 45 kilometers through our urban limits, this river channel functions as the central drainage artery for the upper Bhima sub-basin. Decades of unmitigated population growth, aggressive real estate construction right up to the water's edge, and industrialization have pushed our natural infrastructure way past its breaking point. What used to be a vibrant river ecosystem that recharged our local aquifers and supported native wildlife has been choked by concrete walls and artificial channels. Natural floodplains have been swallowed up by development, and the seasonal streams and nullahs running through our neighborhoods have been reduced to mere open drains for raw city runoff.

To understand the ecological decay of Mula-Mutha system, it must be analyzed within its broader hydrologic network. The Mula- Mutha river system forms a vital Western –to-Eastern drainage arm of the Upper Bhima sub-basin, which itself constitutes a major tributary system of the Krishna River basin. Geographically originating in the heavy rainfall zones of the Sahyadri range in the Western Ghats, the primary feeder streams benefit from intense monsoon precipitation before descending onto the semi-arid rain shadow region of the Deccan Palteau. The Mula River originate near Mulshi and flows eastward through hilly terrain, regulated upstream by dams such as Mulshi, Temghar, and Pawna across its regional network.

Concurrently, the Mutha River originates near Vegre and passes through critical reservoir impoundments at Panshet, Varasgaon, and Khadakwasla.

The two rivers course though expanding peri-urban zones before reaching their historic confluence at Sangamwadi in central Pune. topographically, the basin catchment is characterized by shallow basaltic soil covers, steep upstream slopes, and low – gradient alluvial plains within the urban boundaries. Historically, this natural hydrological gradient created extensive riparian wetlands, seasonal floodplains, and gravelly stream beds that facilitated natural water purification, silt entrapment, and deep auifer recharge. However, as the upper catchment experiences land-use transformations –ranging from deforestation and hill-slope cutting to intensive construction- the natural runoff coefficients have escalated dramatically. Monsoon discharge now moves rapidly off denuded slopes, carrying high sediment loads and unmitigated storm runoff into the urban stretches, severely reducing the river's natural base flow during non-monsoon months and exaggerating seasonal flood peaks.

Too Many Cooks, One Dirty River: How Overlapping Local Authorities Are Choking Pune's Streams

Fixing the Mula-Mutha river system comes down to addressing the chaotic, piecemeal way our region is managed.

Right now, the river gets chopped up across overlapping—and frequently clashing—administrative boundaries. You have the Pune Municipal Corporation (PMC), the Pune Metropolitan Region Development Authority (PMRDA), the Pimpri-Chinchwad Municipal Corporation (PCMC), and various local Gram Panchayats all attempting to govern different slices of the very same river basin.

While the PMC focuses on the central city limits, PMRDA controls the rapidly expanding outer areas where high-rise townships, industrial parks, and informal housing spring up constantly. This divided setup creates massive loopholes in ground-level enforcement:

Conflicting Rules on Paper, Chaos on the Ground: How Clashing Building By-Laws Are Ruining Pune's Riverbanks: -Planning standards vary wildly depending on which side of the boundary line a project sits on. High-density housing schemes cleared in PMRDA zones upstream routinely lack connections to central sewage networks. Naturally, untreated household waste gets routed right into neighborhood nullahs that wash straight down into PMC jurisdiction.

Choking the Feeders, Paving the Banks: How Ignoring Tributaries and Over-Concreting Destroyed Our River: -For years, regional planning has treated critical seasonal streams—like the Ramnadi, Devnadi, and Ambil Odha—as basic concrete drains instead of vital ecological lifelines. Unchecked construction, stream diversion, and heavy concreting cleared through local permits have choked stream beds, stripped away natural greenery along the banks, and destroyed natural bio-filtration long before these tributaries reach the main river stem.

FIGURE 1

Squeezed and Suffocated: How Concrete Walls and Waste Are Strangling Pune's Natural Feeder Streams



Note. Adapted from Times of India, by TOI Photo, 2024 (<https://timesofindia.indiatimes.com>).

Passing the Buck: How Civic Agencies Blame Each Other While the River Suffers:-When toxic runoff or raw sewage fouls the water, actual enforcement vanishes. Warning letters and notices bounce back and forth between municipal offices, development bodies, and the MPCB, with every agency pointing fingers at jurisdictional boundaries or lack of funds.

If we want real progress, Pune needs a single, watershed-based river basin authority. Managing regional growth through one unified hydrologic vision is the only way to ensure upstream construction under PMRDA rules doesn't ruin downstream river health under PMC limits.

Looking back, Pune's urban growth has repeatedly favored rapid real estate expansion over ecological limits. Paving over natural riverbanks has destroyed groundwater absorption, turning normal monsoon showers into severe flooding hazards across our streets. Meanwhile, the lack of real teamwork between PMC, PMRDA, and the Maharashtra Pollution Control Board (MPCB) leaves us with a completely broken oversight system.

India's legal framework isn't lacking—Articles 48A and 51A(g) of the Constitution, alongside the Water Act of 1974, set clear protection standards. But those laws collapse at the local level because of administrative friction. This paper looks closely at the ground reality of our river basin, breaks down local statutory obligations, and presents a practical, citizen-led roadmap built around grassroots monitoring and community action.

The Constitution and the Climate: How India's Ground Rules Protect Our Natural World

When you read through legal papers on environmental protection, it is easy to get lost in dry statutory language. But when you look at the Indian Constitution through the lens of what is happening on the ground along the Mula-Mutha, its intent becomes strikingly clear.

The Constitution gives us a powerful foundation for environmental protection, anchored mainly by Article 48A and Article 51A(g). Article 48A places a direct directive on the State to protect and improve our natural surroundings, while Article 51A(g) reminds every one of us that safeguarding rivers, forests, and wildlife is our personal civic duty. Under the Directive Principles, government bodies have an ongoing obligation to enact and enforce environmental standards across our city. They are legally required to make sure urban expansion and industrial growth do not destroy local ecosystems or ruin our water bodies.

When you read Article 48A alongside Article 39(b), the argument for protecting our river becomes even stronger. Article 39(b) insists that the State must manage public material resources for the common good. A natural river ecosystem like the Mula-Mutha is a classic public asset—it belongs to everyone. When administrative authorities permit untreated sewage or toxic waste to pollute the riverbed, or allow real estate developers to build right over natural floodplains, they are essentially handing over a public resource for private profit. Taken together, Articles 48A and 39(b) mandate that planning authorities treat river corridors as shared heritage, prioritizing their restoration for community health over short-term real estate gains.

This responsibility isn't just floating at the national or state level; the 74th Constitutional Amendment Act of 1992 brought it directly to our doorstep. By introducing Article 243W and the Twelfth Schedule, the Constitution decentralized urban planning and handed environmental accountability straight to local municipal corporations. Entries 2, 8, and 14 of the Twelfth Schedule explicitly charge local bodies with urban planning, urban forestry, and environmental protection.

Because of this, local authorities like the Pune Municipal Corporation have a constitutional duty to integrate green spaces, protect urban trees along riverbanks, and preserve natural drainage channels. City planning cannot just be about laying asphalt, building flyovers, or

clearing commercial plots; protecting living ecosystems is a core municipal function. Leaving domestic sewage untreated or turning a blind eye to riverbed encroachments is a failure to uphold this basic constitutional mandate.

Part IV (Directive Principles) and Part IVA (Fundamental Duties) fit together to establish environmental protection as a supreme public value. Our courts have repeatedly made it clear that state agencies cannot hide behind budget deficits or logistical delays to escape their duty to protect natural ecosystems. At the same time, Article 51A(g) highlights that citizens must be active participants in protecting natural resources. Paired with judicial rulings under Article 21—which establish that the right to life includes the right to a clean, healthy environment—these constitutional principles make one thing obvious: reviving the Mula-Mutha requires both strict state accountability and active, citizen-led action.

Living Water, Living Rights: How Article 21 Makes a Clean River a Legal Must

Article 21 guarantees every person the fundamental right to life. Over the decades, our courts have steadily broadened this protection, establishing that living a meaningful life is impossible without a clean, healthy, and pollution-free environment. Landmark rulings by the Supreme Court confirm that environmental destruction directly harms human dignity. In *Subhash Kumar v. State of Bihar* (1991), the Court made it clear that access to unpolluted water and clean air is an essential part of human existence protected under personal liberty. By expanding Article 21, the judiciary linked human rights directly with environmental protection, recognizing that our survival and physical health depend entirely on ecological stability.

Going beyond basic survival, the Supreme Court has steadily woven broader socio-economic protections into Article 21 to strengthen environmental defense. In *Consumer Education & Research Centre v. Union of India* (1995), the Court held that occupational safety and a hazard-free environment are core aspects of human dignity, observing that good health is necessary to truly exercise any constitutional freedom. Similarly, in *Charan Lal Sahu v. Union of India* (1990)—the landmark case following the Bhopal Gas Leak disaster—the Court focused on the state's custodial role. It held that public agencies carry a primary duty to protect citizens from environmental threats under the doctrine of *parens patriae* (the state as guardian of its people). These judgments prove that environmental safety is not an optional administrative policy, but

a constitutional right.

This legal evolution treats severe environmental damage as an actionable public tort—a legal wrong committed by state agencies or private entities against the entire community. When municipal bodies continuously fail to process city sewage or let toxic industrial waste pour into public rivers like our Mula-Mutha, their failure goes far beyond routine negligence; it becomes a direct breach of public trust and constitutional obligation. Under public law remedies, courts can hold local authorities strictly accountable for these public torts, imposing financial penalties, mandatory cleanup orders, and strict corrective directions to restore ruined ecosystems.

When urban river basins experience systemic decay, communities living downstream bear the heaviest burden, facing severe health hazards when forced to live alongside polluted riverbeds, foul odors, and untreated waste. Under the doctrine of parens patriae, state and local authorities are duty-bound to enforce strict rules that shield residents from corporate and municipal apathy. Local administrative bodies in Pune are legally obligated to prevent municipal sewage and toxic runoff from choking our river systems. Under our constitutional framework, protecting the Mula-Mutha is directly tied to safeguarding public health, human dignity, and fundamental rights.

Pollution, Poisons, and the Courts: How Untreated Waste Is Killing Our Water and Who Is Standing Up to Stop It.

The severe ecological damage across our Mula-Mutha river basin comes down to two main problems: massive volumes of untreated domestic sewage and unmonitored industrial waste pouring straight into the water.

When you walk along different stretches of the river, the damage isn't abstract—it hits you immediately. Upstream near Vitthalwadi, thick, overgrown mats of water hyacinth completely choke the stagnant surface. This rapid weed growth is a classic sign of extreme nutrient overloading from excess nitrogen and phosphorus. The resulting eutrophication blocks out natural sunlight, starves the water of oxygen, and smothers aquatic life.

FIGURE 2: -

Suffocating the Flow: Massive Hyacinth Mats Blanketing Stagnant River Water in Pune



Note. Adapted from field observation photo archives, 2024.

Downstream near Bund Garden, the river turns dark and gives off a heavy, foul stench—a clear indicator of extreme biochemical oxygen demand (BOD) depletion. During hot summer months, BOD levels regularly spike between 30 mg/L and 60 mg/L, crashing past the Central Pollution Control Board (CPCB) safety standard of 3 mg/L for open water bodies. At the same time, Dissolved Oxygen (DO) drops below 3 mg/L, turning the riverbed into an anaerobic dead zone where fish and native species simply cannot survive. Meanwhile, in neighborhoods like Viman Nagar, open stormwater nullahs carry untreated household greywater directly into the main river channel without any filtration whatsoever.

FIGURE 3 :-

Choked Stretches: Stagnant Water, Algae Scum, and Floating Garbage in the City River



Note. Adapted from Times of India, by TOI Photo, 2024 (<https://timesofindia.indiatimes.com>). Residents living along these stretches constantly voice their frustration over the decay. During field visits near Bund Garden, a long-time local resident shared:

"Decades ago, this river was central to our daily routine and local culture. Today, during summer, the smell is intolerable, and the sheer volume of mosquitoes forces us to keep every

window closed day and night. We watch garbage dumping happen right along the banks, but authorities almost never step in."

Site observations near secondary nullah discharge points confirm the same recurring issues: piles of solid waste along the banks, chemical scum floating on the surface, and uncollected plastic choking the flow. Because the river's natural bed filtration has been destroyed, toxic runoff is seeping deeper into the ground, threatening surrounding aquifers. This steady buildup of chemical pollutants in local urban soil poses a serious long-term hazard to urban wildlife and greenery.

FIGURE 4:-

Dumping Ground at Our Doorstep: Plastic Waste and Uncollected Garbage Littering Local Feeder Drain Banks



Note. Adapted from Pune Times Mirror, 2024 (<https://punemirror.com>).

FIGURE 5:

Garbage on the Riverbanks: Plastic Debris and Solid Waste Pile Up Along the Water's Edge



Note. Adapted from The Indian Express, 2018 (<https://indianexpress.com>).

Tackling these enforcement failures, the National Green Tribunal stepped in with the landmark

case *Sarang Yadwadkar v. Pune Municipal Corporation* (2013). The Tribunal clamped down on unauthorized riverbed narrowing, illegal debris dumping, and unapproved construction within designated blue-line flood levels, ruling that active floodplains must remain free from artificial obstructions. This decision underscored the mandatory duty of municipal bodies to enforce environmental compliance under both the Water (Prevention and Control of Pollution) Act, 1974, and the Environment (Protection) Act, 1986.

FIGURE 6:

Erasing the Flood Margin: Heavy Machinery and Artificial Banks along the Mula-Mutha



Note. Adapted from Hindustan Times, by HT Photo, 2024 (<https://www.hindustantimes.com>).

When you look at how sewage management actually plays out on the ground in Pune, the gap between what our treatment plants are supposed to handle and what they actually process is a massive headache. A lot of our older plants are constantly running well below capacity because of endless maintenance delays, unexpected power outages, and trunk lines that choke during the rains. Come monsoon, the stormwater drains and sewage lines mix, causing raw sewage to bypass treatment facilities entirely and flow straight into the river channel. To clean up this mess, city planning needs to focus on upgrading line capacity and setting up smart flow sensors at major discharge points. Expanding small, decentralized treatment units across fast-growing neighborhoods allows us to treat wastewater right at the ward level, keeping local nullahs clean and relieving pressure on central networks.

Beyond concrete structures and rules on paper, bringing the Mula-Mutha back to life means repairing the river's natural defenses. Years of pouring concrete along embankments and reclaiming riverbeds have wiped out our natural riparian zones—those green buffer strips along the banks that naturally filter runoff, bind the soil, and stop erosion. Replanting native grasses and wetland plants along key stretches recreates natural biological filters that absorb urban runoff and help the river clean itself. At the same time, real recovery depends on citizens

staying involved. When local residents, student groups, and neighborhood ward committees regularly keep an eye on their local stretches, illegal dumping drops fast. Pairing civic vigilance with municipal enforcement turns environmental protection into a lived daily habit rather than an empty promise.

From Words on Paper to Water in the River: Real Actions to Save the Mula-Mutha

FIGURE 7:

Inside a Modern Sewage Plant: How Clarification Tanks and Aeration Basins Process Wastewater



Note. Adapted from industrial wastewater treatment technical archives, 2024.

Restoring the Mula-Mutha isn't just about passing policies on paper—it requires strict ground-level enforcement and genuine teamwork between civic authorities and local citizens. The foundation for this rests squarely on the Public Trust Doctrine, articulated by the Supreme Court in *M.C. Mehta v. Kamal Nath* (1997). Under this doctrine, the government holds vital natural assets—like flowing rivers, natural forests, and clean air—in trust for the public. Local authorities are legally barred from turning over natural riverbeds for commercial projects or letting them rot through administrative neglect.

Turning these legal principles into real-world action means expanding modern sewage treatment, cracking down on illegal industrial discharges, and setting up continuous water quality monitoring across vulnerable urban stretches. Achieving real remediation requires pairing massive infrastructure efforts—like the ongoing Japan International Cooperation Agency (JICA) Mula-Mutha Abatement Project, which aims to build 11 new Sewage Treatment Plants and add 396 MLD of treatment capacity—with smart, decentralized engineering solutions right in our neighborhoods.

Building decentralized Sewage Treatment Plants (dSTPs) at the local level takes the strain off our aging municipal pipeline network. At the same time, micro-level biological interventions—such as constructing artificial wetland systems, running phytoremediation channels along our major nullahs, and placing floating bio-matrices directly in stagnant water—can naturally cleanse incoming wastewater before it ever hits the main river.

FIGURE 8:

Roots at Work: Floating Wetland Islands Absorbing Pollutants and Restoring Water Clarity



Note. Adapted from environmental restoration project archives, 2024.

Phytoremediation uses native aquatic plants like *Typha latifolia* and *Canna indica* to organically filter out heavy metals and excess nutrients. Finally, installing real-time water quality sensors across river stretches would make BOD, COD, and Dissolved Oxygen readings publicly accessible, giving residents transparent data to hold municipal bodies and industrial units accountable.

FIGURE 9:

Nature's Scrubber: *Typha latifolia* Reeds Used for Phytoremediation and Biological Waste Filtration



Note. Adapted from botanical reference archives, 2024.

While large-scale projects like JICA tackle big, long-term capacities, day-to-day restoration

still hits massive operational roadblocks. In fast-expanding residential pockets, household wastewater production moves way faster than pipeline construction. When heavy monsoon downpours overwhelm our combined stormwater and drainage lines, raw effluents bypass treatment plants completely. Setting up ward-level treatment systems plugs these critical gaps. By treating wastewater right in our local neighborhoods, secondary stormwater channels feed clean, oxygenated water back into the river, cutting down the organic load long before it hits choked downstream stretches like Bund Garden.

On top of that, setting up automated sensors across major discharge points turns environmental monitoring into a transparent, data-backed process. When key water indicators—like Dissolved Oxygen (DO), Chemical Oxygen Demand (COD), and clarity—get published on public online dashboards, local authorities face real-time accountability whenever pollution levels spike. That level of transparency helps stop unmonitored industrial dumping under cover of night, forcing nearby industrial units to actually run their basic treatment systems before sending waste into municipal drains.

Beyond mechanical plants and filter systems, bringing the river back to life means rebuilding its natural biological shields along the banks. Years of unchecked concrete construction and riverbed encroachment have wiped out native riparian zones—the green vegetated buffers that hold soil banks together, absorb heavy floodwaters, and naturally filter incoming urban runoff. Bringing back native plants and wetland vegetation along designated blue-line flood zones creates natural bio-filters that catch suspended solids and heavy metals before they seep deeper into local groundwater tables.

Rebuilding these green buffers also helps lower heat island effects across surrounding residential neighborhoods while reviving local corridors for native birds and aquatic life. Blending solid engineering work with natural riverbank revival is what will finally transform the Mula-Mutha from a polluted drain back into a resilient, living river system for Pune.

Watchful Eyes, Living Waters: How Local Communities Keep Pune's Rivers Safe

Taking environmental protection beyond government offices comes down to ordinary residents stepping up in our own neighborhoods. In *Vellore Citizens' Welfare Forum v. Union of India*, the Supreme Court highlighted two principles that should guide us on the ground: sustainable

development and the precautionary principle. The precautionary principle basically says that when an ecosystem faces serious or permanent damage, waiting for "complete scientific proof" is no excuse to delay simple, practical action. For us in Pune, it means we cannot wait around until the Mula-Mutha suffers a total ecological collapse before taking preventive action.

We see this shift happening through neighborhood cleanups, citizens reporting illegal waste dumping along local nullahs, and awareness drives across different wards. Local groups like Jivitnadi have already shown what citizen-led action looks like in practice. Through organized river walks, workshops, and riverbank adoption programs, civil society groups are helping residents reconnect with the water bodies in their own backyards. When neighborhood ward committees get actively involved, they can work alongside municipal sanitation teams to spot illegal industrial discharge pipes and keep track of garbage pileups along the banks.

FIGURE 10:

Restoring Living Waters: Jivitnadi Community Drive Clearing Plastic Waste along the Riverbank



Note. Adapted from Hindustan Times, 2018 (<https://www.hindustantimes.com>).

FIGURE 11:

Grassroots Guardship: Community Volunteers Clearing Debris Along Neighborhood Waterways



Note. Adapted from community environmental drive photo archives, 2024.

Equipping residents with simple digital tools—where anyone can photograph a dumping spot, geo-tag it, submit it to official portals, and track the response—changes the dynamic completely. It closes the gap between remote government offices and the people actually living next to polluted river stretches, turning everyday residents into active guardians of their environment. This kind of civic vigilance is what bridges the gap between written laws and real, lasting change on the ground.

FIGURE 12:

Standing for Our Waterways: Local Residents and Activists Gathering to Advocate for River Rights



Note. Adapted from civil society river campaign archives, 2024.

References

Constitution of India, 1950

Jain, A.K. (2023). Law and Environment. Ascent Publications

M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388

Sarang Yadwadkar v. Pune Municipal Corporation, Original Application No. 03/2013 (WZ) (National Green Tribunal).

The Environmental (Protection) Act, 1986, No. 6, Acts of Parliament, 1974 (India).

The Water (Prevention and Control of Pollution) Act, 1974 (India).

Vellore Citizens' Welfare Forum v. Union of India (1996) 5 SCC 647

The Environment (Protection) Act, 1986, No. 29, Acts of Parliament 1974 (India).

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