WATER CARE TECHNOLOGIES (WCT)
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PROJECT BLOG / CASE STUDY

From Stench to Serenity:

How We Revived a 5-Year Dead STP

Jayanti Nagari 3, Nagpur · Residential Apartments & Row Houses · April 2026

5 Years	100%	14	Daily
Plant Dormant	Compliance Restored	Project Photos	Water Reused for Gardens

> *What do you do when a colony's sewage treatment plant has been dead for five years — when untreated sewage flows freely, when the stench has become part of daily life, and when residents have almost given up hope? You call in Water Care Technologies.*

SECTION 1 — BEFORE: THE PROBLEM

The Problem — A Colony Living With Its Own Waste

Jayanti Nagari 3 is a residential colony of apartments and row houses in Nagpur, Maharashtra. Like many housing societies built in the 2000s and 2010s, it had a Sewage Treatment Plant (STP) installed as part of its infrastructure — a legal requirement under Maharashtra's environmental norms. But somewhere along the way, the plant stopped functioning. Then it sat idle. For five years.

During those five years, all sewage from the colony — every flush, every drain — was being discharged untreated directly into the surrounding environment. The consequences were unmistakable and impossible to ignore.

Before: Two heavily corroded MS sand filter vessels — 5 years of complete neglect, rust and waterlogged base

The plant itself had deteriorated severely across every component. The MS (mild steel) sand filter and carbon filter vessels were covered in heavy rust corrosion — orange-red rust had eaten through the surface on all sides. Pipelines were broken and disconnected. The multiport valve — a critical component controlling the filtration and backwash cycles — had seized completely and been removed, lying useless on the ground.

Before: Damaged pipeline connections and a severely corroded single filter vessel — structural integrity fully compromised

Before: The failed multiport valve — cracked and non-functional, lying on the ground. This single component failure cascaded into total plant shutdown.

The blower — essential for aerating the biological treatment chamber — was non-functional. The entire biological treatment process had collapsed. Without aeration, the beneficial bacteria that perform sewage treatment cannot survive. The result: raw, untreated sewage flowing directly into the surrounding soil and drainage channels.

The Impact on Residents

For the families living at Jayanti Nagari 3, this was not just a technical failure. It was a daily quality-of-life crisis:

- Persistent, unbearable foul odour throughout the colony — every morning, every evening
- Waterlogged and unhygienic conditions around the STP and drainage areas
- Children unable to play freely outdoors near affected areas
- Continuous violation of MPCB (Maharashtra Pollution Control Board) norms
- Risk of penalty notices and environmental action against the society
- Silent but serious damage to the colony's reputation and property values

Why Do Housing Society STPs Fail?

Before describing the solution, it is worth understanding why this situation is so common. Across Maharashtra — and India — thousands of residential STPs are currently either non-functional or

operating far below standard. Based on our experience at Water Care Technologies, the primary reasons are:

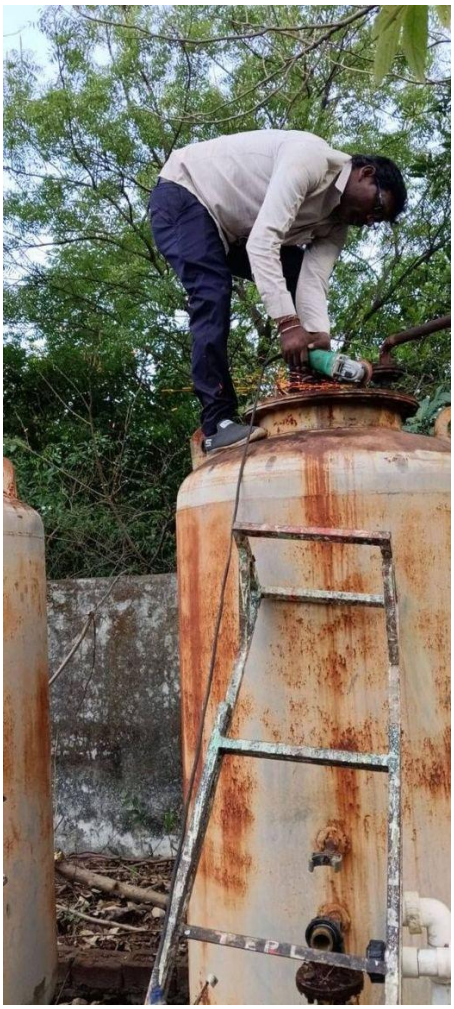
1. **Poor original technology selection:** Many STPs were installed with processes unsuited to the actual sewage load or to the technical capacity of the society to operate them.
2. **No qualified operator:** An STP requires regular monitoring, chemical dosing, and process adjustments. Most housing societies rely on untrained watchmen or housekeeping staff.
3. **Deferred maintenance:** Minor mechanical issues — a worn valve, a seized flange, a failed pump — go unaddressed until they trigger total system failure.
4. **No accountability:** When the plant stops working, societies often do not know who to approach or what to do. The problem quietly persists for months, then years.

🔧 **SECTION 2 — DURING: WCT TEAM IN ACTION**

The Revamping — What WCT Actually Did

When Water Care Technologies was engaged at Jayanti Nagari 3, we began with a thorough site assessment — not just a visual inspection, but a systematic evaluation of every component: civil structures, mechanical equipment, electrical systems, pipework, valve condition, and the biological treatment process status.

The diagnosis was clear: this plant had suffered simultaneous failure across mechanical, biological, and pipeline systems. Reviving it required a comprehensive, sequenced approach — not patchwork repairs.



During: WCT technician on top of seized vessel — cutting open the backwash flange with an angle grinder. Sparks flying — this is the kind of hands-on skilled work most contractors avoid.

Complete Scope of Revamping Work

Complete Scope of Work — Jayanti Nagari 3 STP Revamping
Mechanical Overhaul Both sand filter and carbon filter MS vessels — complete surface preparation, rust treatment, priming and full repainting in professional blue finish
Seized Flange Access Cutting open severely seized backwash flanges using angle grinding — critical for accessing and replacing internal media
Filter Media Replacement Complete removal and replacement of sand filter media and activated carbon in both vessels — restoring filtration capacity to design specification
Multiport Valve Replacement Failed multiport valves removed and replaced with new properly rated valves — restoring backwash and filtration cycle control
Pipeline Network Complete replacement of all frontal pipework, valves, fittings and connections — new UPVC and MS pipelines installed throughout

New Lobe Blower New lobe blower installed in the blower room — critical for supplying aeration air to the biological treatment chamber

Control Panel New electrical control panel installed with proper switches, indicators and labelling — enabling reliable operation and monitoring

Collection Tank Pump New pump installed for the treated water collection tank — enabling treated water to be pumped for reuse

Culture Dosing System New biological culture dosing system installed — seed culture added to restart the biological treatment process from scratch

Equipment Labelling All equipment properly labelled: Carbon Filter, Sand Filter, Blower, Control Panel, Culture Dosing — enabling easy identification by operators

Commissioning & Handover System tested, commissioned and handed over with O&M guidance for society staff

During: Welding work on the freshly painted blue carbon filter — new pipeline connections being fitted. The transformation from rust-red to clean blue is already dramatic.

During: Angle grinding and surface preparation work on the second filter vessel — achieving the clean blue professional finish.

During: Inside the blower room — new lobe blower installed (left), technician welding the new pipeline manifold connections. This blower is essential for biological aeration.

One of the most challenging aspects of revamping a long-dormant plant is that every component has degraded simultaneously. This is fundamentally different from routine maintenance, where individual parts are serviced one at a time. Here, everything needed attention at once — and many components, like the severely seized flanges, required creative problem-solving to even access. The WCT team executed the work systematically over several weeks, phase by phase, ensuring each system was properly tested before moving to the next.

SECTION 3 — AFTER: THE TRANSFORMATION

The Transformation — Results That Speak for Themselves

The results of the revamping were immediate and visible. Within days of commissioning, the persistent colony-wide foul odour — which residents had endured for five years — was gone. The biological treatment process, re-seeded and properly aerated by the new blower, began working as designed. The filter vessels, now clean and properly charged with fresh sand and activated carbon media, started polishing the treated effluent to a clear, odour-free quality.

Culture dosing system — biological process restarted

New control panel & blower — operational and labelled

New collection tank pump installed — treated water can now be pumped for garden reuse

Twin filter vessels — fully painted, valved & commissioned

Sand & Carbon filters — ready for operation

The complete STP — Carbon Filter + Sand Filter + Culture Dosing System — all fully operational and labelled. A professional installation. April 2026.

The Proof — Water Quality

Perhaps the most powerful testament to the success of the revamping is not the equipment or the paint. It is this: the treated water that now flows out of this system is clear, colourless, and odour-free — collected and tested on site.

The proof — treated water collected from the revamped STP. Clear, odour-free, meeting irrigation quality standards. This came from a plant that was dead just three weeks earlier.

> *"The treated water — once a source of pollution that flowed untreated into the environment — is now being collected, pumped, and used to water the gardens of Jayanti Nagari 3 every single day."*

Key Outcomes Achieved

- ✓ STP fully operational and producing compliant treated effluent
- ✓ Colony-wide foul odour completely and immediately eliminated
- ✓ Environmental compliance fully restored — no more MPCB violation risk
- ✓ Sewage no longer discharged untreated into surrounding environment
- ✓ Biological treatment process stable and running reliably
- ✓ Treated water recycled daily for garden irrigation — saving fresh water
- ✓ All equipment properly labelled and documented for ongoing O&M
- ✓ Society staff briefed on daily operational requirements

Why This Project Matters Beyond Jayanti Nagari 3

This case study is significant not just for the colony, but as a mirror for thousands of similar situations across Maharashtra. The Maharashtra Pollution Control Board (MPCB) and MahaRERA have increasingly tightened norms around STP compliance for residential projects. Societies with non-functional STPs face:

- Environmental notices and penalties from MPCB
- Regulatory complications during property resale and society audits
- Ongoing health and quality-of-life impacts for residents
- Wasted infrastructure investment — the STP was paid for, but delivers nothing

The solution is not always to install a new plant. Often, as at Jayanti Nagari 3, the existing infrastructure can be revamped, restored, and made fully functional at a fraction of the cost of new installation — provided the right technical partner is engaged.

Water Care Technologies specialises in exactly this intersection: technical competence, practical execution, and the ability to bring dead systems back to life. This project is proof that with the right partner, a community can reclaim its dignity — and turn a problem into a solution.

BEFORE ❌

- 5-year dormant plant
- Untreated sewage discharged daily
- Persistent foul odour
- Corroded & broken equipment
- MPCB non-compliance
- Residents suffering

AFTER ☑

- ✓ Fully operational & compliant
- ✓ Sewage treated to standard
- ✓ Odour completely eliminated
- ✓ Clean, labelled equipment
- ✓ MPCB compliant
- ✓ Treated water reused for gardens