



Saaf Water, Safe Communities : The Indispensable Role of **PLUMBERS**

in India's
water
infrastructure

- Yashovardhan Agarwal

Civilisations have been long defined by their mastery over water – the elixir of life. The Indus Valley civilisation—one of the oldest in the world—boasted advanced drainage systems, the remains of which can still be found deeply buried in Lothal, Gujarat¹. Two ancient cities Mohenjo-daro and Harappa in the Indus valley showcased advanced plumbing and sanitation systems, including covered drains, indoor toilets and sophisticated water management.





Fast-forward to today: while on one hand India has become the world's third-largest economy, several parts of the nation face a water crisis, and many rivers are polluted. With rampant urbanisation and inadequate drainage systems, cities are prone to flooding, and the importance of skilled plumbers has never been more vital in building efficient water management systems. Despite high demand, there's a shortage of skilled plumbers and this demand will continue to rise.

This year, the World Plumbing Council has declared the theme - "Plumbing is more," which couldn't have been more relevant to our current situation. Plumbing is not just pipes and fittings—it's about creating resilient, sustainable water-related infrastructure, and contributing to thriving communities.



Plumbers—the unsung stewards of this invisible water infrastructure—are often relegated to clichés about fixing leaks and unclogging drains. In reality, their role is nothing short of nation-building: they ensure clean water reaches homes, industries function without disruption, and sanitation systems keep diseases at bay. Without them the modern civilization, as we know it, would crumble. Let's explore the role of plumbers in detail here:

Plumbers - The Backbone of Water Infrastructure

As India makes rapid headway towards urbanisation, our towns and cities must prepare to house over 600 million people by 2036². To sustain this proliferation, we need a robust water infrastructure with advanced management systems. While Government led initiatives like the Jal Jeevan Mission have attracted investments of over Rs. 1 lakh crore, this planning, execution and efficiency will define the future of water management.

In the event of natural disasters and havocs, water supply is one of the first and the most crucial services to be disrupted. The National Policy on Disaster Management³ lists water storage tankers as a part of critical infrastructure. This goes on to show how crucial the expertise of plumbers becomes in the face of natural disasters. During floods, earthquakes, or other calamities, it is the strength of our plumbing infrastructure that determines whether communities would float or sink and face a breakdown or not.

Plumbers need to be at the heart of all our future urban planning, involved at every stage of a water system—from laying the groundwork for plumbing systems to ensuring unhindered water supply and proper disposal of sewage. Urban planning and execution needs to be such that during floods, earthquakes, or other natural calamities, plumbing infrastructure must withstand pressure and continue delivering essential services.



Defenders of Public Health

An economy that is marred by diseases, epidemics and infections is a sign of poor human resources and can dampen its growth trajectory. Public health derives directly from its water systems. Water-borne diseases can immobilise a population gnawing at its capacity for progress. The condition worsens in underserved areas where infants are impacted the highest, leading to high rates of infant mortality. This year, the World Health Organisation has laid special emphasis on maternal and new-born health⁴. Access to proper sanitation and clean drinking water are crucial in preventing waterborne diseases such as cholera, typhoid, and dysentery.

In hospitals, schools, and commercial establishments, plumbing ensures safe drinking water, sterile medical environments, and hygienic sanitation. Without plumbers, contamination risks would skyrocket, endangering millions. Their work in maintaining and upgrading these systems is fundamental to a healthy society. As India builds more cities, plumbers will be on the front line protecting human health, by enabling access to and effectively maintaining water supply systems. Plumbers thus play a crucial role in public health safety by ensuring clean water supply, proper sanitation, and the safe disposal of waste.

Role in Sustainability and Water Conservation

The average annual per capita water availability is projected to be 1367 cubic meter, as per the findings of the Central Water Commission, which already falls under the water-stressed category (being <1700 cubic meter). This calls for an urgent need for a sustainable water infrastructure. To lead this transition, the role of skilled plumbers is undisputable—installing rainwater harvesting systems to integrating greywater recycling technologies.

Use of recycled or retreated water often comes with a negative perception. People might initially resist the usage citing hygiene concerns. Plumbers can act as on-ground influencers to lead this transition from the front. Greywater recycling is one of the most effective solutions existing in our arsenal to effectively prevent

precious water resources from depleting. These advancements can ensure access to reliable water supplies in the face of climate change and increasing water scarcity.

The plumbing industry aligns with the United Nations Sustainable Development Goals (SDGs), particularly Goal 6 (Clean Water and Sanitation)⁵. Without skilled plumbers, achieving these global objectives would be impossible. Plumbers can serve as influencers for green plumbing practices as they support energy efficiency through water-efficient fixtures such as low-flow toilets, sensor-based faucets, and high-efficiency showerheads. Leak detection and repair are crucial services that prevent unnecessary water loss.

Economic Contributions and Job Creation

Plumbing is not just essential for public health and sustainability—it is also a key driver of economic growth. The construction industry, which relies heavily on plumbing expertise, is one of the key contributors to industry growth. Every residential, commercial, and industrial project requires plumbing installations, making plumbers an integral part of smart cities and water-related infrastructure. Additionally, plumbing-related businesses, from manufacturers of fixtures to service providers, form an integral part of the construction industry supporting economic growth and job creation.

Moreover, a well-maintained plumbing system reduces healthcare costs associated with waterborne diseases. Governments and municipalities can save billions by investing in high-quality plumbing infrastructure rather than dealing with the consequences of poor sanitation.

This shows that there is a foreseeable growth for the plumbing community in India.

Challenges and Opportunities in the Plumbing Profession

Despite its critical role in nation-building, the plumbing profession faces significant challenges. In India, plumbing still struggles with perception challenges, often viewed as a blue-collar job rather than a skilled profession. On the other hand, there is a shortage of skilled labour both in India and globally.



A FICCI-KPMG study⁶ estimates that by 2030, the global demand for skilled workers will outpace supply, creating a shortage of over 85.2 million people⁷ and resulting in \$8.45 trillion⁸ in unrealized annual revenue—equivalent to the combined GDPs of Germany and Japan. This global talent crunch opens a massive opportunity for India, particularly in sectors like plumbing, which blend technical expertise with hands-on application.

International demand is already rising. For instance, in Oman, the demand for skilled plumbers is soaring⁹, especially for specialists in water supply systems, heating, gas installations, and sanitation projects—a trend mirrored across GCC nations.

Technological advancements—from smart plumbing systems and IoT-enabled leak detection to water efficiency audits—are transforming the field, requiring continuous upskilling. For those ready to evolve, new opportunities lie in green plumbing, smart water management, and sustainability consulting. With targeted skilling, recognition, and supportive government policies, the plumbing profession can

thrive as a vital contributor to India's economy and global workforce mobility.

Conclusion – Plumbers are the Unsung Architect of Progress

A nation's strength is often measured by the quality of its infrastructure and the well-being of its people. Plumbers stand at the confluence of both—quietly enabling progress, safeguarding public health, and supporting the very systems that sustain modern life.

While there is huge opportunity in the plumbing profession both in India and globally, it is time we accord this profession the recognition it rightfully deserves as an integral pillar in the journey of nation-building. It is time we view the profession not just as a technical expertise, but as one deeply interwoven with public health, environmental stewardship, and economic progress. Investing in skill development, embracing technological advancements, and recognizing the critical contribution of plumbers are essential as we build towards a healthier, more sustainable future.

References

- 1 www.harappa.com/lothal/14.htm
- 2 www.worldbank.org/en/news/opinion/2024/01/30/gearing-up-for-india-s-rapid-urban-transformation
- 3 www.mha.gov.in/sites/default/files/2022-08/NPDM-101209%5B1%5D.pdf
- 4 www.who.int/news-room/events/detail/2025/04/07/default-calendar/world-health-day-2025-healthy-beginnings-hopeful-futures
5. www.un.org/sustainabledevelopment/water-and-sanitation/#:~:text=Goal%206%3A%20Ensure%20access%20to%20water%20and%20sanitation%20for%20all&text=Access%20to%20safe%20water%2C%20sanitation,in%202030%20unless%20progress%20quadruples
6. 7. 8. assets.kpmg.com/content/dam/kpmg/pdf/2014/09/FICCI-KPMG-Global-Skills-Report-low.pdf
9. techgraph.co/inside/demand-for-plumbers-in-oman-which-specialists-are-most-in-demand/

Yashovardhan Agarwal
Managing Director, Welspun BAPL Limited &
Director, Sintex BAPL Limited



Yashovardhan Agarwal is a results-driven leader with a proven track record across industries and business domains – plastic, building materials and automotive industry. He currently spearheads the plastic division of Welspun which includes - Sintex and Welspun BAPL. Yashovardhan holds a Bachelor of Science: Managerial Economics with Management program from Bentley University, USA and an MBA (Master of Business Administration) from the University of Notre Dame, USA. He is a member of the Harvard Club of Boston.