

India's Water Magazine

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## CLEANING WATER RESOURCES

Industry Interviews with



**Mr. Gopal Madabhushi**  
Senior Vice President &  
Business Leader  
Veolia Water Technologies  
& Solutions



**Mr. Subhash Sethi**  
Chairman  
SPML Infra Ltd.

INSIDE

Veolia Water Technologies & Solutions helps Dairy Industry retrieve river water in South Asia via industry-pioneering steps

Automation in Drinking Water Supply Distributed System and Testing of Water

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Interview with  
**Mr. Subhash Sethi**  
SPML Infra Ltd.

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Interview by  
**Virender Kumar**

# NAVIGATING WATER CHALLENGES

*Water permeates the cultural, social, economic and political fabric of India. The nation's vast population, currently 1420 million and increasing, faces the challenges of scarcity and persistent pollution shaping the complex water landscape.*

SPML Infra is becoming a future-ready water infrastructure company that will continue to innovate and support its clients to achieve their sustainable water management goals.



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An in-depth conversation with Mr. Subhash Sethi, Chairman, SPML Infra Limited on water management challenges and sustainable solutions.

**Q. How water industry has evolved in India over the years since you started working in this sector?**

**A.** I have a clear recollection of our entry into the water sector more than four decades ago. At that time, water hardly featured as a government concern, given the abundant resources available to meet our needs. However, as time marched on, population numbers swelled, industries flourished, food production surged, diverse sectors began placing greater demands for water. We are currently facing difficult challenges of water scarcity and contamination. Almost 70% of India's surface water resources are polluted. More than 600 million people in the country are facing acute water shortages and some of our leading metropolitan cities are on the verge of facing 'day zero' scenario.

Water plays a crucial role in India's development

goals. It includes ensuring drinking water, food security, and effectively managing rapid urbanization, promoting sustainable urban and rural development, mitigating disaster risks, adapting to climate change, and fostering economic growth.

Having access to merely 4% of the planet's water reservoirs to sustain a population surpassing 17% of the global total, India has experienced a significant decline in per capita water availability over time. The average annual per capita water availability plummeted to 1486 cubic meters in 2021, marking a stark decrease from 2309 cubic meters in 1991 and 1902 cubic meters in 2001. Projections indicate that by 2025 and 2050, per capita water availability is predicted to further decline to 1401 and 1191 cubic meters, respectively.

Harnessing the rain is difficult and the current per capita water storage capacity significantly lagging behind that of China. As a result, more than 60% of India's irrigated agriculture and 85% of drinking water supplies are dependent on groundwater, making it the largest user of



This is an opportune moment to shape the future of water in India but we can only achieve this through collective action – everyone has a role to play.



Water Treatment Plant, Gagreen, Rajasthan



**Industrial Wastewater Treatment Plant, Bawana, Delhi**

groundwater in the world. The impact of climate change events are expected to intensify further with incessant rains flooding the cities and heavy drought conditions in other regions.

There is a visible change and water sector scenario in India is progressively improving, driven by the government's dedicated emphasis on fortifying urban and rural water supply infrastructure, enhancing resources, integrating cutting-edge technology, and bolstering initiatives such as rainwater harvesting and groundwater management. The dedicated efforts under the Jal Jeevan Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission, Atal Bhujal Yojana and others accompanied by substantial financial allocations further underscoring the commitment to this cause.

#### **Q. What do you think about digitization of water utilities in India? How far they have succeeded in transition?**

**A.** Digitization is inevitable! Water utilities will have to work smarter in order to succeed, and that means picking the right digital tools and implementing them correctly with a long term perspective. Digital tools are impossible to avoid as the modern landscape of technological advancement continues to shape the operations and management.

Fundamentally, the problems of tomorrow won't be solved by yesterday's solutions. The environment we are operating presently is much more complex than it was 40 years ago. The digitization of water utilities in India is crucial towards improving efficiency, accessibility, resilience and accountability. The government is pro-actively taking initiatives for the transition of water utilities into the digital realm. In a world which is more digitized and technologically faster, where we have to do more with less, and do it a lot faster, effective technological intervention is critical for continuously delivering safe & secure water services to consumers.

An incomplete or inconsistent digitization strategy can lead to challenges, particularly in administrative functions and ensuring compliance with drinking water quality and wastewater management. It is crucial for water utilities to ensure that the water they provide is not only safe; it is in accordance with drinking water standards. They also have to minimize water loss during transmission to reduce financial losses and prevent wastage.

Several water utilities, especially large ones with sound resources had made significant strides in digitization. They have successfully integrated smart metering, data analytics, and remote monitoring systems into their operations to enhance efficiency and improve service delivery. The level of digitization varied between large to small water utilities. Larger ones generally had more resources and incentives to embrace digitization, while medium and small utilities faced infrastructural and financial limitations. While progress is being made, challenges such as budget constraints, technical hurdles, and lack of awareness about the benefits of digitization are still prevalent. These challenges often led to uneven adoption and implementation. Our experience has shown that the key predictor of success in building the utility of the future lies in digitizing, organizing, and automating the tasks involved.

#### **Q. Water loss is a significant challenge for water utilities in India. What are your views on the strategies that could effectively address this challenge?**

**A.** Water loss is a global concern confronting water utilities across continents. The distressing factor is that in India, this issue accounts for nearly half of the total water production. The alarming reality is that despite having a significant population with consumption reaching trillions of litres of fresh water, nearly 50% of the treated water is lost in transmission. Global Water Intelligence has published a report based



**Pump House for SAUNI Yojana Phase-1, Gujarat**

on their survey of water loss in the world's top 40 water markets. The findings reveal that countries such as the Netherlands boasted a mere 4% water loss, Denmark recorded 6%, and Japan had 7%, leading the list. In stark contrast, India is placed at the bottom with an alarmingly high 50% water loss, even falling behind African nations where resource crunch is a hindrance in technology adoption.

Water loss is not just the loss of water. It profoundly impacts the overall functionality of water utilities. The leaks and ruptures within the water supply network, which allow water to escape, pose a grave risk to public health as they become primary sources of contamination. This leads to impurities infiltrating the distribution system, compromising water quality. Even minor losses that accumulate over time can exert a significant financial burden.

Addressing water loss in water utilities in India requires a multifaceted approach.

- Implementing advanced leak detection technologies and conducting regular maintenance to identify and fix leaks can significantly reduce water loss.
- Installing smart meters and real-time monitoring systems can provide accurate data on water consumption, helping utilities identify areas of high loss and take prompt corrective measures.
- Upgrading and maintaining aging water infrastructure can help prevent leaks and reduce inefficiencies in water distribution.
- Optimizing water pressure in the distribution network can minimize leaks and bursts, ultimately leading to reduced water loss.
- Implementing data analytics to study consumption patterns, identify anomalies, and predict potential leaks can help in proactive leak detection and management.
- Enforcing regulations and guidelines for water management,

including penalties for water wastage, can encourage responsible usage and efficient distribution.

- Employing innovative technologies like pressure management systems, satellite imagery, and predictive analytics can enhance water loss reduction efforts.
- Conducting periodic audits to evaluate the efficiency of water distribution systems and pinpoint areas of improvement is crucial.

A suitable example of water loss management project is available in Bengaluru where SPML Infra Limited has successfully implemented such initiative within the designated zones. We employed cutting-edge leak detection technologies to identify leaks in small and large diameter legacy pipes, some of which were laid down 50–60 years ago. These aging pipelines were subsequently replaced with modern pipes. The project effectively addressed leakages, introducing electronic district meters equipped with GSM/GPRS communication capabilities strategically deployed for flow measurement and pressure control, serving as a preventive measure against potential future leaks. This targeted project yielded impressive outcomes, reducing water loss from an initial average of 53% to a mere 19%, leading to a remarkable conservation of 55 million liters of potable water on a daily basis.

**Q. Do you think that India requires a national water strategy to effectively address water scarcity?**

**A.** India's water challenges – water scarcity, pollution, and uneven distribution are complex and multifaceted. Water experts have suggested that a comprehensive and integrated national water strategy could play a crucial role in effectively addressing these issues.

This year in March, Germany has adopted a new national water strategy to protect water resources and securing water supply. This long term



**Water Supply Pipeline for Jaipur, Rajasthan**

strategy addresses key areas such as water conservation, water resource protection, climate change adaptation, international cooperation, and research and innovation.

Given the challenges India faces in terms of water scarceness and scattered resources, the development and implementation of a comprehensive national water strategy could indeed be beneficial. Such a strategy could help coordinate efforts, prioritize resources, and address water-related issues in a more holistic and systematic manner. A national water strategy could potentially offer several benefits, such as:

- **Optimal Resource Allocation:** It could facilitate efficient allocation of water resources, balancing needs for agriculture, industry, urban consumption, and ecological sustainability. It will also have a coordinated plan for resources like funding, technology, and expertise that could be allocated more effectively to various water-related projects and initiatives.
- **Coordinated Efforts:** A unified strategy would allow for coordinated efforts across different states and regions ensuring a holistic approach to water management.
- **Mitigation of Scarcity:** A well-designed strategy could address water scarcity by promoting water conservation measures, optimizing usage, efficient irrigation practices, rainwater harvesting, and fostering the creation of alternative water sources.
- **Quality Improvement:** The strategy could incorporate measures to improve water quality by preventing pollution and ensuring safe water for all. Addressing water pollution and promoting the safe disposal of wastewater could be a critical aspect of the strategy.
- **Sustainability:** A long-term national strategy will support water

sustainability and climate resilience. It will also provide a framework for managing water resource management in the context of natural calamities and evolving climate patterns.

- **Public Awareness and Participation:** It could facilitate public awareness campaigns and participation in water conservation efforts, making it a collective responsibility.
- **Legal and Policy Framework:** A national strategy has the potential to foster the creation of cohesive legal and policy frameworks that regulate the utilization, distribution, and administration of water resources and can act as guiding framework in the event of water disputes.
- **Research and Innovation:** It will encourage research and innovation to develop new technologies and approaches for sustainable water management.

A comprehensive approach that takes into account the country's diverse water challenges and potential solutions would likely be beneficial. But the effectiveness of such a strategy would depend on political coordination, resource allocation, effective governance and implementation along with its adaptability to changing circumstances.

#### **Q. Could you elaborate SPML's business model and its strategy to be a leading player in the Indian water industry?**

**A.** SPML Infra Limited is a leading infrastructure development company that is involved in various sectors including water supply, wastewater treatment, power, and sanitation projects. Its primary focus has been on water and wastewater management solutions. It follows an integrated approach to provide comprehensive solutions that covers the entire



**300 Million Litre Raw Water Reservoir at Pokhran, Rajasthan**

lifecycle of water and wastewater projects. This includes feasibility studies, design, construction, commissioning, and operations and maintenance.

SPML Infra prides itself on having a direct and tangible impact on the people, industries, and communities that it serves. Guided by the founding principles; passion and innovation, superior project management, and creating impact on the lives of people, we leverage on our high-value engineering capabilities as we continuously tackle complex water requirements through innovative solutions. Having created clean drinking water facilities for over 50 million people in India, we believe real ownership can only be achieved if sustainability is fully integrated into any business model. Our emphasis is incorporating advance technologies and innovative solutions into the projects.

This approach not only enhances operational efficiency but also helps in achieving higher standards of water quality and environmental sustainability.

SPML Infra plays a pivotal role in driving economic progress, collaborating closely with stakeholders to provide enduring water infrastructure

solutions that are adaptable to time and climate challenges. This synergy, combined with the competence of our dedicated personnel and visionary leaders, forms a potent recipe for achievement and propels us on a robust path of growth.

We believe we have an edge when it comes to our ability to understand the requirements associated with large and complex water projects with long-term economic and commercial viability. We are building some of the largest water projects across states in India and introducing modern technology and sustainable solution that not only garners satisfaction from our clients but also amplifies project execution. Our prowess in the Indian water sector, further bolstered by a legacy encompassing over four decades and the successful execution of 650 projects, serves as the cornerstone of our sustained achievements.

There are many opportunities in water supply and wastewater recycling and reuse that are yet to be tapped and SPML Infra is well equipped to lead on these fronts. Our work is attuned to Indian water market needs and aligned with the goal of Indian Government's ambitious plan of 'har ghar jal' (water for every households).



**Technology Intervention for Water Management**

### **ABOUT THE RESPONDENT**

Mr. Subhash Sethi is Chairman of SPML Infra Limited. Under his leadership, the company has established itself as a leading Engineering and Infrastructure Development organization. He is a well-recognized industry leader and serves as Chairman in expert Committees' of industries' associations. He has been honored with several prestigious awards, including Economic Times Asian Business Leadership Award for his valuable contributions in infrastructure development.