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WATER: CHALLENGES & PROSPECTS



Mohammed Abdul Rahman
CEO, Sahara Industry

Mohammed Abdul Rahman: The young entrepreneur with a marketing & finance degree is the CEO of Sahara Industry. He has successfully steered the company into a leading water and wastewater treatment solution provider in India. His technology-driven business approach supported by dynamic leadership has made his group companies grow efficiently with turnover crossing the scale of INR 1000 million.

👉 www.saharaindustry.com
 🌐 <https://www.linkedin.com/in/abdul-rahman-mohammed-0420bb56/>

The water crisis is affecting nations across the globe and persistent droughts and floods have undeniably affected water security. By 2050, at least 5 billion people, over half of the world population of that time (9.7 billion in 2050) will face at least one month of water shortage, according to the United Nations reports on how climate change is affecting the world's water resources.

In India, over 600 million, nearly 43% of the total population is facing severe water scarcity currently that is going to escalate further unless drastic remedial measures are taken. A report by the World Wide Fund for Nature (WWF) projected that about 30 Indian cities would face 'grave water risk' by 2050 due to a sharp increase in population. The problems range from poor management of water sources, contaminated

supplies, leaky distribution networks and vast volumes of untreated wastewater being poured into India's rivers. Almost 40 billion litres of generated wastewater is being disposed into India's rivers and ponds without any treatment per day. This figure will keep on growing as the population increases and wastewater treatment infrastructure is not adequate.

Booming Population

According to the United Nations' most recent population projections, India will replace China as the world's most populous country this year and will retain that title until 2100. As per the 2030 Water Resources Group, if we continue to consume water at the current rate, India will only have half the water it requires by 2030.

India's population currently hurtling at 1415



2000 LPH Fully Automatic RO Water Treatment Plant



Industrial Water Treatment Plant

million people is increasing at the pace of 1.2% annually since 2011, and is going to become 1515 million by 2030. With only 4% of the limited freshwater resources, water demand continues to outstrip supply. Freshwater sources are under heavy stress with increasing population and demands, people of India are facing a difficult challenge – the accessibility of fresh water.

Water Crisis

Several states in India are facing extreme water scarcity. Uttar Pradesh, the biggest state in India faced extreme drought and monsoon floods in different districts from July to September 2022. The water crisis not only affects the human population, but also put a negative impact on industrial production

leading to economic losses. The agriculture and food industries got affected in Uttar Pradesh due to large-scale droughts that also destroyed sugarcane harvests.

Supporting almost 18% of the world's inhabitants in India is daunting enough, considering the limited availability of fresh water. A long period of unsustainable use, lack of regulation, resource crunch for development, mixing of wastewater with fresh water, and general neglect have led to people thirsting for clean drinking water. Niti Aayog, four years ago estimated that over 600 million people in the country are suffering from severe to extreme water scarcity in their report. The critical water situation in India can be linked to a myriad of causes, some of which are mentioned above.

The concern is not limited to surface water only as it has moved from the surface to the ground. And it's there where India's freshwater is under the greatest stress.

India is the largest user of groundwater at roughly one-quarter of the global usage, surpassing China and the United States combined. With electricity subsidies to farmers, the aggressive pumping of groundwater has

30 Indian cities would face 'grave water risk' by 2050 due to the population increase.



Ultrapure Water Treatment Plant

resulted in the water table dropping up to 4 meters in some parts of the country.

The water crisis situation has grown to the point that regional disputes have risen over access to river water between several states. It is not limited to the country's interior only as water disputes take on a global scale in conflicts with Pakistan over the River Indus and River Sutlej in the west and north and with China to the east with the River Brahmaputra.

Growing Water Market

The per-capita income of Indians witnessed growth in the past decade and lifestyle changes together with increased awareness about the importance of safe drinking water have created a huge demand for clean drinking water. It not only made the bottled water industry flourish, but the demand for water treatment products, chemicals, and technology also received fast momentum.

The water treatment market is growing on a healthy pace in India and is segmented on the basis of type, component, application, technology, industry and end user.

Rapid growth in population and urbanization, stringent water treatment regulations, the rising need for new water resources, the growing emphasis on water quality and public health, and the increasing prevalence of waterborne diseases are driving the growth of the water and wastewater treatment market.

The global water and wastewater treatment market is expected to reach a value of USD 956.48 billion (INR 7.75 trillion) by 2032, at a CAGR of 5.4% during the forecast period 2022–2032. According to a 2022 Frost & Sullivan's report, the Indian water treatment market is likely to reach USD 2.08 billion (INR 170.56 billion) by 2025 from USD 1.31 billion (INR 107.42 billion) in 2020, registering a growth rate of 9.7% CAGR.

The global water and wastewater treatment chemicals market is expected to reach USD 52.01 billion (INR 4,264 billion) by 2029 at a CAGR of 4.7% from 2022 to 2029. Whereas in India, the market size was valued at over USD 600 million (INR 49.2 billion) in 2020 and the market is projected to register a CAGR of over 9.5% in terms of revenue during the forecast period (2021–2026).

The Indian water and wastewater treatment (WWT) technology market was valued at over USD 2.10 billion (INR 173.82 billion) in 2021 and the market is projected to register a CAGR of greater than 8% during the forecast period (2022–2027).

The India water pumps market was valued at USD 1685 million (INR 138.17 billion) in 2021 and is forecasted to grow at a CAGR of 5.59% until 2027, owing to the increasing water infrastructure development

and construction of new human and commercial settlements.

The bottled water market in India is expected to reach USD 4.91 billion (INR 403.06 billion) by the end of 2023, expanding at a compound annual growth rate (CAGR) of 20.75% from 2018. In terms of volume, the market is likely to reach 35.53 billion litres by 2023, expanding at a CAGR of 18.25% from 2018 to 2023.

Outlook 2023

India is ranked as the sixth largest market for environmental technologies in the world, with subsector rankings of second for water & wastewater management, as per Frost & Sullivan report.

The Government of India has initiated several schemes for water supply and wastewater treatment in India, such as Jal Jeevan Mission (JJM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), National Mission for Clean Ganga (NMCG), Atal Bhujal Yojana, and Community Drinking Water Schemes along with many others are continuing and will contribute to the growth of the Indian water and wastewater market. The Jal Jeevan Mission earmarked a budget of INR 700 billion for the year 2023–24 for states to increase household water connection coverage which was just 18.33% in 2019 to 100% by 2024. This ambitious project with a total outlay of INR 6.47 trillion for rural and urban areas is creating huge opportunities for suppliers of water meters, water quality monitoring systems, water management–related IT systems, tertiary treatment technology, and water–related engineering, procurement, and construction companies.

Sahara Industry being the leading water treatment solution provider in India is hopeful that the union budget for 2023–24 will help in speeding up the execution of various ongoing water supply and wastewater treatment projects as the deadline to complete several schemes are coming closer.

There will be immense opportunities in the industrial sector as well. The power, food and beverage, chemicals, pharmaceuticals, refineries, and textiles industries prefer advanced treatment technological systems such as reverse osmosis membranes for treating to generate ultra-pure water for their production facilities. These water treatment plants are gradually shifting from chemical treatment and demineralization plants to membrane technology. The concept of wastewater recycling

Rapidly diminishing freshwater resources and growing wastewater complexities will drive the demand for water and wastewater treatment technologies in India.



FRP Pressure Vessels

and zero discharge systems is becoming more widely accepted as new technologies such as sequencing batch reactor (SBR) and membrane bioreactor (MBR) based treatment is gaining momentum and wide acceptance.

Being market-oriented with modern systems and processes, Sahara Industry has been following a client-centric approach to provide specific and requirement-based high-quality treatment systems with excellent service standards. The technical expertise and modern manufacturing facilities combined with a broad understanding of the water sector in India have enabled it to offer the best integrated and strategic approach to industrial and municipal water and wastewater treatment. The Company provides multi-disciplinary water and wastewater treatment and engineering services and delivers ideal solutions based on the experience of implementing hundreds of plants and projects with an integrated project approach.

In a legacy of about two decades, it has contributed immensely by making water safe for drinking, industrial and institutional purposes. The ISO 9001:2015-certified company has executed water and wastewater projects in the length and breadth of India as well as in several other countries. The professional approach with well-qualified teams has helped it to achieve the rare feat of being an indigenous creator of advanced water and wastewater treatment solutions confirming world standards.