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Getting Back to Business



Streams of Progress

New schemes and technologies to drive the sector forward

As a fast developing and the second most populous country in the world, India is facing a severe water crisis. India receives 3,000 billion cubic metres (bcm) of water every year through rainfall or other sources such as glaciers. Of this, only 8 per cent is collected. The total capacity of India's reservoirs stands at 250 bcm, while its total water bearing capacity over the surface is around 320 bcm. As a country that withdraws the largest quantity of underground water, India fills groundwater aquifers at the rate of 458 bcm per year, while it extracts around 650 bcm of water from the earth. Therefore, one of India's biggest challenges is to conserve groundwater. On the waste management front, waste dumping and open burning continue to be the principal methods of waste disposal in the country. Most cities and towns dispose off their waste by depositing it in low-lying areas outside the city. Hence, there is a need to promote environment-friendly methods of disposal on a large scale. *Indian Infrastructure* presents the views of leading experts on the sector's recent progress, the impact of Covid-19 and the future outlook...

What has been the progress in the water and waste sector over the past one year?

Sourav Daspatnaik

The progress in the water and wastewater segment in terms of technology has been very encouraging, with the use of new membranes and new-age materials like Graphene and ceramic membranes becoming mainstream. Technology is playing an increasingly important role in wastewater treatment with a lower footprint. New applications are emerging in the adsorptive process for the removal of contaminants such as water arsenic, antimony or chromate from water or wastewater.

The pandemic has made it amply clear that WASH (water sanitation and hygiene) is central to human health and well-being. The ambitious Jal Jeevan Mission Har Ghar Nal Se Jal for rural households has given new momentum to water infrastructure development, which is very much a social infrastructure. In spite of several supply chain constraints during the pandemic, water and wastewater utilities have played a stellar role in ensuring uninterrupted supply of water during the pandemic, especially during the lockdown period.

Arun Lakhani

In the water sector, the Jal Jeevan Mission is the major focus area of the government, and it



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aims to take tap water to the large rural population. Further, the National Mission for Clean Ganga (NMCG) is continuing with its project announcements, with another list of projects in the offering. Apart from the state governments, urban local bodies and development authorities are coming up with various projects.

Subhash Sethi

The past one year saw one of the biggest challenges in human history in the form of the pan-

dem. In the water sector, the severity of the water crisis in India has increased further and more people are facing high to extreme water stress. With 17.65 per cent of the world population, India has only about 4 per cent of the world's freshwater reserves and is currently facing severe water-related issues.

Ensuring water security is a high priority for the Government of India, which is taking steps to address the situation and tackle the crisis. In 2021-22, the Ministry Jal Shakti of has allocat-

"Our social infrastructure projects are working to preserve the public utilities and must be further strengthened." Sourav Daspatnaik

ed Rs 500.11 billion to achieve the goal of “Har Ghar Jal” by 2024. Under the Jal Jeevan Mission, almost 26.5 million new Functional Household Tap Connection have been provided to rural households in the country.

On the technological front, sensor-based IoT solutions have been piloted for measuring and monitoring water supply with respect to quantity, quality and regularity of water in villages on a real-time basis. So far, 11 such projects in five states have been initiated and results are being monitored. Every water supply asset created is also being geotagged with a photograph for regular monitoring.

What has been the impact of the key initiatives taken by the government?

Sourav Daspatnaik

The government’s flagship programme, the Jal Jeevan Mission (Rural), for ensuring water supply through taps in rural households is a major step in the right direction. Meanwhile, the Jal Jeevan Mission Urban, which subsumes Atal Mission for Rejuvenation and Urban Transformation (AMRUT), is expected to give an impetus to the urban water and wastewater infrastructure. The efforts made under the NMCG are now showing results. Going forward, similar initiatives must be taken to clean the national rivers as national assets.

Arun Lakhani

The impact of the Jal Jeevan Mission is expected to be huge as it reaches new households. Currently, millions of new connections are being established and the major advantage of the programme is that the data of the work being done is being updated on the portal on a daily basis, thereby clearly demonstrating the achievements as against the targets.

Subhash Sethi

The Pradhan Mantri Krishi Sinchayee Yojana – Har Khet Ko Pani aims to provide financial assistance to states for assured groundwater irrigation to small and marginal farmers. Under the scheme, Rs 17.18 billion has been approved for 15 such projects in 12 states and work

“The impact of the Jal Jeevan Mission is expected to be huge as it reaches new households.” Arun Lakhani

is in progress in different states. The National Hydrology Project (NHP) with a budget outlay of Rs 36.8 billion is progressing well and contracts for establishment of 6,500 real-time hydro-meteorological (meteorological – measuring rainfall and other weather parameters; and hydrological – measuring water level and discharge) stations have been awarded. Of these, 1,900 stations have been installed and have started contributing data to the centralised database. Since the initiation of the NHP, 12,273 surface water stations have been mapped in the Water Resources Information System and 70,525 groundwater stations have also started sharing data.

The Master Plan for Artificial Recharge of Groundwater-2020 was also implemented for the construction of about 14.20 million rain-water harvesting and artificial recharge structures in the country to harness 185 bcm of monsoon rainfall. This is a macro plan formulated to improve the feasibility of various structures for different terrains across the country. A detailed project report is being prepared at an implementable level with a broad outline of the project and expected investments in implementation.

Meanwhile, the NMCG has been progressing well and by the end of July 2021, 162 projects under the scheme have been completed while 150 projects are at different stages of execution, 28 new projects are at the tendering stage and seven more projects will be taken up shortly.

What has been the impact of Covid-19 on the sector? What has been your organisation’s

response to the pandemic?

Sourav Daspatnaik

The Covid-19 pandemic has indeed brought out the great strength of the water and sewerage utilities in ensuring uninterrupted supplies to the public as well as industries during the lockdown. This means our social infrastructure projects are working to preserve the public utilities and must be further strengthened.

There have been disruptions in ongoing projects, especially at construction sites. A large number of water projects, especially water pipeline projects and construction activities, were affected due to the lockdown. These projects have suffered immensely due to a combination of several factors such as lack of supply of equipment, pipes, cement, steel, meters, namely. pumps, motors; lack of manpower; lack of raw material, chemicals, construction aggregates namely. sand and stone chips; and lockdown restrictions imposed on all such activities.

Since the water and wastewater sector is part of essential services, agencies executing projects and operations involved in water and wastewater (sewerage) have mostly preferred not to invoke the force majeure clauses (though they could have) in order to serve the public at large during the pandemic. This also goes to show the vital role the water and wastewater sector and the Ministry of Jal Shakti (both the departments) have played during the entire pandemic. The sector has toiled hard to keep projects and operations going amid the loss of lives, severe financial stress and several disruptions.

“The outlook for the water sector in India for the next one to two years or even beyond is indeed promising, given the introduction of various water-related government schemes.” Subhash Sethi



Arun Lakhani

As with every other sector except healthcare, the water sector was hit with a slowdown of new project announcements, leading to reduced execution on the field. However, Vishvaraj Infrastructure Limited continued hiring manpower and working on ongoing projects in the field.

Subhash Sethi

The Covid-19 pandemic has disrupted lives globally. India, too, suffered badly with infection counts going into millions and over 0.4 million casualties. As such, there was no direct impact on water services in the country due to stay-at-home orders, lockdowns and curfews, but the infrastructure development work of the sector did suffer major losses. The significant challenges that disturbed the business environment of the sector included the escalating cost of raw materials, reduced number of workforce, working capital issues, cost margins/profitability concerns, cost of deployed workforce, wages and salaries during the lockdown, repayment of loans, cost of capital and cost of compliance. It also

resulted in projects getting delayed and financing costs rising exponentially. Projects did not generate the planned revenue and did not deliver their social promise.

While coping with the pandemic disruptions is a struggle, at SPML Infra Limited, we have put the health and safety of our employees and workforce on highest priority, using modern technology to execute our projects. We have incorporated innovative digital interventions in our business operations for remotely monitoring projects and troubleshooting any issues before they disrupt the execution. The current crisis has also accelerated resource efficiency measures in SPML Infra, while health and safety priorities have gained greater strategic relevance. The pandemic has accelerated the implementation of drones, closed circuit interconnected cameras, advanced people management systems, modern equipment and machines, connected devices for efficient project execution and monitoring. Advanced analytics and machine learning have helped capture both structured and unstructured data, and optimise decision-mak-

ing including workload, staffing solutions and strategies for minimising inefficiencies.

What are the sector's key challenges that remain unaddressed?

Sourav Daspatnaik

The water and wastewater sector is playing a vital role in building a social infrastructure for the country. However, the government cannot build and carry out such a mammoth task alone. There is a need for the private sector to come forward and work together to build a strong and resilient water infrastructure in the country like the US did in the early 1940s and 1950s. The subsector of water and wastewater and even sanitation must be given a separate identity under the infrastructure sector. It should be treated at par with utilities like power.

The Government of India, through the Ministry of Finance, Department of Financial Services, introduced the Emergency Credit Line Guarantee Scheme (ECLGS) 1.0 for providing 100 per cent guarantee coverage for addition-

al working capital term loans (in the case of banks and financial institutions) and additional term loans (in the case of NBFCs), subject to certain terms and conditions.

ECLGS 1.0 provides 100 per cent guarantee to member lending institutions in respect of an eligible credit facility extended to their borrowers whose total credit outstanding (fund-based only) across all lending institutions and days passed, as of February 29, 2020, were up to Rs 500 million and up to 60 days respectively.

ECLGS 2.0 (modified on November 26, 2020) provides 100 per cent guarantee to member lending institutions in respect of an eligible credit facility extended by them to their borrowers in the 26 sectors, including healthcare, identified by the K.V. Kamath Committee on the Resolution Framework by way of its report dated September 4, 2020 and whose total credit outstanding (fund-based only) across all lending institutions and days passed as of February 29, 2020 were above Rs 500 million and not exceeding Rs 5 billion, and up to 60 days respectively.

ECLGS 3.0 (modified on April 1, 2021) provides 100 per cent guarantee to member lending institutions in respect of an eligible credit facility extended by them to their borrowers in the hospitality (hotels, restaurants, marriage halls, canteens, etc.), travel and tourism, leisure and sporting and civil aviation (scheduled and non-scheduled airlines, chartered flight operators, air ambulances and airports) sectors, whose total credit outstanding (fund-based only) across all lending institutions and days passed as of February 29, 2020 did not exceed Rs 5 billion and up to 60 days respectively.

It would not be out of place to mention that many drinking water and wastewater management projects of the central and state governments have been severely impacted due to the Covid-19 pandemic and consequential lockdowns. The ECLGS was introduced with the aim of helping sectors that have been impacted. However, it is believed that the drinking water and wastewater management sector has been completely overlooked as multiple projects have been crippled due to the lack of manpower, lack of raw material, credit crunch, financial distress, etc. The viability of the projects is in

doldrums and MSMEs will not be able to run at pre-Covid levels for a long time. The pandemic also affected the construction and revenue of O&M agencies in water utilities.

Arun Lakhani

Some of the key challenges that have remained unaddressed include the lack of a balanced concession agreement that can give adequate comfort to private investors, except in the case of the NMCG. Further, the authorities' mindset, as was mentioned in the Kelkar commission report, is still a long way from being implemented.

Subhash Sethi

Ageing infrastructure is amongst the key challenges that remain unaddressed at a large scale although some revamping and retrofitting activities indeed took place. Further, the increasing population, higher economic and industrial activities, rising customer demands, incorporation of advanced technologies, water thefts, and high level of non-revenue water are some of the challenges that remain unaddressed.

My opinion is that the government should consider steps to reduce water usage in irrigation with smart techniques along with an integrated approach to water supply and wastewater management in the country with reliability and financial sustainability. Improved cost recovery by adopting a systematic approach towards wastewater treatment and resource recovery with a complete reuse facility should be made obligatory if we have to make drinking water available for people in the coming years.

What is the sector outlook for the next one to two years?

Sourav Daspatnaik

The sector has tremendous opportunities and is poised to grow at over 15 per cent year on year, mainly due to the government push towards ensuring clean drinking water for all. The climate change and ESG issues are bound to put water at centre stage. We expect to attract private investments in water and utilities, as

well as the industrial water space, both on the technology and the infrastructure side.

Private sector participation in water and wastewater infrastructure in India has been limited till date. There is a need to look at an enabling framework like in the road and power sectors to promote private sector participation in design, construction and development and O&M of water and wastewater infrastructure with visible financial models and sustainable payment-backed guarantees.

Arun Lakhani

The sector is still in a growing phase with respect to having the private sector as developers, and will need more time to mature. Meanwhile, the engineering, procurement and construction mode appears to be the preferred way for project implementation in the sector currently.

Subhash Sethi

The outlook for the water sector in India for the next one to two years or even beyond is indeed promising given the introduction of various water related government schemes. The Jal Jeevan Mission (Urban) with an exclusive budget of Rs 2.87 trillion for 2021-26, the Jal Jeevan Mission (Rural) with an outlay of Rs 3.6 trillion for 2019-24 and the Namami Gange programme with Rs 200 billion are some of the flagship programmes that will continue for a longer period. There are other schemes like the Pradhan Mantri Krishi Sinchayee Yojana - Har Khet Ko Pani (Rs 90.5 billion), Dam Rehabilitation and Improvement Project Phases II and III (Rs 102 billion) for the period of 2020-31, the National River Linking Project (Rs 224.95 billion), AMRUT with Rs 73 billion for 2021-22, and the National Hydrology Programme with Rs 36.8 billion up to the year 2024.

The Pradhan Mantri Krishi Sinchayee Yojana Accelerated Irrigation Benefit Project with an exclusive budget allocation of Rs 115.88 billion for the period of 2021-22, the National Watershed Project (Rs 26.11 billion) up to 2022, the Atal Bhujal Yojana with Rs 60 billion for up to 2025 are the important government schemes that promise a better prospect for the water sector in the time to come. ▀