

Infrastructure[®]

November 2013 • Vol. 11 No. 4

TODAY

₹ 100

India's Premier Magazine for Nation Builders

The dispute over disputes

An in-depth look at how the impending Dispute Resolution Bill will impact infrastructure businesses

- Renegotiation at whose cost? *Gajendra Haldea, Planning Commission*
- Problems with Dispute Bill: *Amit Kapur and Vishnu Sudarsan, J Sagar Assoc*
- Should the Bill be exclusive to PPP? *Vinayak Chatterjee, Feedback Infra; Amrit Pandurangi, Deloitte*

SPECIAL FEATURE

Behind the success of UAE's Free Zones

ALSO

- Land bill is concerning to Japanese investors: *Shin Oya, JBIC*
- Technology as catalyst of urban construction
- Why wastewater management remains a work-in-progress in Indian cities

FOCUS

Urban construction
technology

ASAPP[®]
MEDIA INFORMATION GROUP

www.InfrastructureToday.co.in

VOX POP

Low technology adoption among cities is major concern: Experts

Wastewater management suffers from the same technology-related problem as most other infrastructure segments—while effective, even viable, technology is available, tendering and other processes, along with low awareness of their availability, has been bothersome to many practitioners.

Our Experts

AV Suresh, President International Operations & CEO
Forbes Professional, Eureka Forbes

Ajay Popat, Director, Ion Exchange India Ltd

Dada Chandane, Project Director, MBMC Project, SPML
Infra Ltd

S Ramachandran, EVP—Environment, Thermax
Sustainable Solutions, Energy & Environment

Swapnesh Paliwal, Director, Adurna Solutions

UV Ulavi, VP & Business Sector Head—Water Resource
Management, Kirloskar Brothers Ltd

What are the major procurement issues for private developers in the urban wastewater segment?

CHANDANE

The major procurement issue for private developers is not the collection of wastewater, but collection of tariffs. As per the precedence, the management of wastewater was the responsibility of urban local bodies (ULBs), be it water or municipal corporations in the cities. The charges are collected by these agencies as consolidated amount as house tax, water tax, sewage tax etc. Any separate collection of charges by private developers on monthly/bimonthly basis creates the impression that this is an additional tax burden.

Fundraising is a key challenge for PPP projects in wastewater management. The market of treated wastewater may be large, but there is no planned activity for



supply and usage by the industries. Investment made by the private companies is difficult to realise in the absence of proper planning and available infrastructure. Companies that rely on subcontractors for the execution of their projects are experiencing difficulties; subcontractors are already facing challenges in managing their working capital, due to the contraction in bank funding.

ULAVI

Being a private player I don't think there are major issues prevailing in the market as most of our clients are government customers and corporations. Besides, in some projects, there are funding agencies like World Bank or Asian Development Bank. There we do not find any funding or procurement as an issue. Sometimes, we face some challenges from certain corporations/municipalities as they are generating their own funds. So the moment their income affects it affects us too. In India, a city's role is not in an advanced level, thus sometimes these issues arise.



RAMACHANDRAN

In India, a project whether government or public-private partnership (PPP) can be brought to the stage of execution only after it has successfully overcome stages like land availability, clearances from concerned government departments, funds and effective implementation.

Anticipating such needs, the JNNURM scheme was formulated in 2005, to provide not only a significant amount of funding to kickstart wastewater projects, but also to put in place a good method of detailed project report (DPR), tendering and bidding, time-bound

completion and ownership of the post implementation O&M issues. With the completion of the JNNURM, a Phase II was expected, but has not yet happened. As a result, many projects which could not get funding are in a limbo, and are unable to get transformed from a DPR to a tender stage. In the absence of the tendering stage, procurement of these projects cannot be taken up by the private developers. As a result, the wastewater segment is seeing low activity and the projected market growth is not happening.

POPAT

You should know how to do business with municipal corporations and government bodies.

What issues do private players face while dealing with city and state governments?

Popat: Being a private player I think government bodies cannot do a lot of projects at a time that private companies expect. Similarly, private companies cannot convince government agencies about many things to work together in PPP mode because the framework does not exist.

ULAVI

Issues such as on time payments from city or state governments affect us. If we don't get our payment on time, our supply and vendors will suffer equally. It is a chain system and the system collapses.

RAMACHANDRAN

Non-adherence to the deadlines in meeting various parts of the project by the awarding and evaluating agencies leads to cost overruns. Tendering authorities do not have the power to change the budget, which is especially relevant in case of delays.

A level playing field is also not provided to the various available wastewater technologies. Technologies should be allowed based on the ability to have the lowest total cost of operations (TCOs). There needs to be a process by which new technologies are vetted and once benefits are known, should be allowed.

PALIWAL

Even if cities accept proposed new technologies, tendering specifications are still very general, providing the leeway to bidders to adopt old technologies as well.

So it becomes uncompetitive for the keen bidders adopt newer technology. There needs to be some system in state government bodies so that they must interact with technology providers regularly to understand the pros and cons of any specific technology. This body must also be allowed to visit the plants based on the offered technology.



CHANDANE

Consultants have to work within the government approved (as per government-approved DPR) technology, rates, items. The use of new and innovative technology becomes difficult since developers are bound by contractual obligations.

Inordinate delays in land acquisition, regulatory bottlenecks, statutory clearances (particularly environment and forest clearances) and difficulty in getting long-term and working capital funds are some of the bottlenecks.

Sometimes land, status of assets, and details about the project do not exactly match ground reality.

Government agencies and their representatives don't allow complete freedom to developers in procurement and execution. [Excessively] stringent checks and balances are enforced with regular interventions, sometimes obstructing execution.

What new technology is now available in wastewater treatment and management?

CHANDANE

Innovations in wastewater treatment must satisfy several criteria:

- To integrate planning with other local services, such as solid waste, organics composting programmes, energy and public services
- To lower costs of wastewater treatment through recovery and reuse
- To minimise environmental pollution
- To embrace flexibility, innovations and technologies for better efficiency

RAMACHANDRAN

Technologies that are cost- and space-effective will survive. Wastewater treatment plants based on technologies like FAB, MBR, SBR or a combination of these technologies to recycle and reuse water can make our cities more sustainable. FAB is an excellent space and power saving technology needing minimum monitoring.

ULAVI:

Cramped cities (such as Mumbai) are seeking new technologies like SBR. SBR requiring lesser space for similar treatment facility. Other technologies like MBR, FAB, etc, requiring little space, could be costly but effective.

SURESH

Piping: A range of new piping material is now available with a higher 'C' value and simpler joining techniques.

Treatment system: Technologies like Membrane Bio Reactor (MBR), Sequential Batch Reactor (SBR),

FEATURE

Fluidised Aerobic Bioreactor (FAB), etc are available to replace earlier technologies of conventional ASP, extended aeration etc. Suitable technology can be adopted based on end-use of treated water, space availability, energy consumption, etc

Operations and maintenance: Field testing and remote monitoring is now possible to undertake immediate corrective actions. It also ensures continuous and efficient plant functioning.

POPAT

New technology can ensure consistent quality of water irrespective of fluctuations in inlet quality. In India, the quality of water varies by seasons. The equipment and technology should be able to treat water with desired parameter despite this variation.

On waste treatment there are similar advanced technologies like SBR, Moving Bed Biofilm Reactor (MBBR), Multi-drug Resistant (MDR) Anaerobic MDR combinations, and flush process.



PALIWAL

Government must consider low-pressure membrane filtration technologies such as Ultra Filtration and MBR as sustainable solutions. With the help of these technologies, treated sewage can also be a source of water.

Has any Indian city assigned all the processes involved in wastewater management?

SURESH

As per our information, so far no city has worked towards assigning all processes involved in wastewater management.

POPAT

We have done business with industries who have accepted this concept with success in this industry and outside India.

RAMACHANDRAN

It's difficult to visualise all the processes put to implementation in India; Singapore has identified well in advance the need to have such a kind of mechanism to ensure its wastewater management.

Today, despite having an extremely scarce water base, it is still able to recycle, reuse and also meet its potable water needs through these processes. It has been able to do so on the basis of implementation of all the processes involved in wastewater management.

CHANDANE

Suitable policy measures need to be formulated to encourage the reuse of treated wastewater. The new treatment processes with resource recovery along with the integration of urban water supply, wastewater treatment and waste management systems will improve the sustainability of our water resources. But in India, the integration of all wastewater treatment processes is yet to be implemented.

Has wastewater management made strides towards being viable?

POPAT

In the Indian context, I would classify wastewater in utilities: One is progressive agencies in Greater Mumbai, Bangalore, Chennai, Hyderabad, Chandigarh, and Gujarat Urban Development Company (GUDC). A lot of changes are likely to happen in these areas soon. Technologies like SBR and MBBR have already been implemented. These technologies are not expensive fundamentally.

SURESH

Nowadays, using treated wastewater is costing less than purchasing tanker water in areas where fresh water is not available.



RAMACHANDRAN

The pricing of fresh water is at market prices in developed countries and not very low as in our country. The incentive to viable wastewater management has not reached the level where it could become viable for a developing or underdeveloped country and hence an economical technological solution needs to be developed to make it a global stride. This will be aided by pricing raw water better and by legislation.

PALIWAL

It is location specific. Where water is available in abundance, people still don't treat effluents well but where water is already scarce, it make sense to not only treat but also recycle and reuse. Researchers are engaged continuously to make it more sustainable. However, if it is viable, we must think about treating it fully before even disposing to the water bodies or ground.

CHANDANE

At present, the wastewater management services are basically subsidised service being provided to consumers by the municipalities and utility bodies and they take care of the capital expenditure for construction, operation and maintenance of STPs. There is no revenue generation source from the operation except tariff being charged as taxes in different format.

IT

Treated wastewater costs less than purchasing water from tankers.