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BUDGET'S MISSION CRITICAL: **MONEY**

The Finance Minister is faced with a Hobson's choice. Should the Budget raise taxes for bringing in funds for the infrastructure sector, or should incentives be offered for greater public spending in this space?



BANKERS TALK

Hari Sankaran,
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Despite enormous benefits, India has hardly tapped about 2 per cent of its Waste to Energy (WTE) potential.... pg 42

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INTERVIEW

Exploring water opportunities from a clean Ganga

Lokesh Punj, Senior Vice President, Jain Irrigation Systems Ltd shares the opportunities and key tasks in the Clean Ganga Mission.

What are the opportunities you see in the segment of wastewater management, with the government's focus on the Clean Ganga Mission?

Clean Ganga Mission under good governance is an essential drive as a mission, at the heart of translating zero tolerance to any contamination of the holy river Ganga, which shall also be a model for all the rivers and water bodies. The first step has to be in making the beneficiaries and taxpayers understand the real objectives of the Clean Ganga Mission. Other tasks would include:

- (a) Leak proof collection, conveyance and processing of unclean liquids and solids/wastes is a must: Provide for complete collection and seamless transport of all so called "waste waters" (sewage through piped sewerage system; Effluents through industrial piping to well-managed ETPs and treated effluents only to safe disposal spots/water body; storm water/surface run-off in habitats to be transported safely and to be stored away from the river in ponds with suitable percolation arrangements for charging groundwater.
- (b) STP/ETPs to be a safe distance away and transport of liquids has to be free from joint failures: locate/relocate functional STPs/ETPs as far away as possible from the banks of the river (should not be within 10 km as the crow flies from the river bank in any case). Main sewers should be perpendicular to river banks taking sewage away from the banks to STPs whose tertiary water should again be pumped/conveyed away from the river to a command area to be irrigated with tertiary treated water. Use of PE/PP pipes should be preferred over conventional rigid pipes in the fragile ecology where alluvial soils tend to settle significantly with water (heavy rains/floods) and rigid pipes cannot take the contour of the settled base soil and joints leak/break causing further settlement/erosion of sub-surface. Flexible pipes such as PE/PP are designed for a useful service life of 100 years and require no maintenance or recurring



expenses. These do not get corroded due to the excellent corrosion resistance properties of PE/PP and their homogeneous joints by butt welding are as strong as the pipes. Moreover, PE/PP pipes are known for absolutely leak-proof joints and can take shape of contour of land, offering much superior flow due to a very smooth inside surface that stays hydraulically efficient throughout the service life. Hence, use of PE/

PP pipes should be preferred even in piping for ETP/STP/WTPs and for transport of sewerage and effluents.

All ETPs should be critically checked for their effectiveness to control the pollutants and use of PE/PP pipes should be preferred as these are perfectly immune from chemical corrosion. Thorough checks are required to establish whether ETPs are giving an output of water with reasonable purity. If it is not so, then, besides relocation of ETPs, the better technologies to be deployed or segregation of types of effluents that can be treated effectively should be categorised for each ETP module. Lot of caution is required for dyes and tanneries that use heavy metal based reactants in their processing and cost of effluent treatment cannot be small and borne by others.

(c) No dead bodies of animals/humans should be allowed to be dumped into the holy river, only ashes may be permitted. Unguarded banks need to have safe netting to prevent throwing of contaminants into the river/tributaries.

(d) Pollutants also travel to the river through the underground water as aquifers and river beds are interconnected in more than one ways. At least 10 to 20 km wide area (depending upon the water movements through underground aquifers) around the river banks to be declared an Organic Farming Zone free from use of any chemical fertilisers and pesticides, etc., and no solid waste dumps to be allowed within 10 to 20 km distance from the banks of the holy river so that leachate should not

FEATURE-WATER & WASTEWATER MANAGEMENT

contaminate the river/ground water.

- (e) 1km width all around the banks of rivers should be made residence and industry free zone so that no solid or liquid waste will find entry into the river.
- (f) Ghats for visitors need to be modernised for toilets and baths to be provided with vacuum sewerage systems to transport sewage far away through the seamless sewerage system. Since famous festival gatherings are a usual feature, basic infrastructure like washrooms, etc., should be built on permanent basis with world class facilities.
- (g) Afforestation of mountains in the watershed of the river is really required and scientific measures should be undertaken to stabilise soil along slopes to prevent landslides and excessive soil erosion.
- (h) A single River Authority should regulate the desilting of the river bed and also regulate waterways by allowing waterways transport by use of clean/gaseous fuels rather than oils.
- (i) Use of land/plastic films/solid and liquid waste management should be well regulated in the watersheds in the upper reaches of the river. Routes for pilgrims should be better managed so that wastes are collected and transported for processing at desired frequencies.

The above points mean very good opportunities for pipe manufacturers and civil contractors, consultants and contractors for ETP/STPs, piping contractors, civil contractors, NGOs, processors of solid and liquid wastes, etc.

What are the major challenges you see in the execution of this project?

Rivers and water bodies have to be rejuvenated under one authority that should overrule State boundaries.

The biggest challenge will be to achieve co-ordination between Centre and State governments in the water sector and a Central Authority to prevail upon State organs to ensure timely implementation of policies and programmes for cleansing of rivers and water bodies. Another challenge shall be to not allow politicalisation of a civic mission by allowing it to gain religious patronage and to let it be credibly known as a mission to cleanse rivers and water bodies that sustain development and life.

What policy changes and technological measures would you like to recommend?

Water at different levels of purity serves differently – as DM water for coolant and conversion into steam at thermal power plants, process water in the chemicals and pharmaceutical industry and with some dissolved salts and residual contents, it has potable quality and then gets classified as water for industrial use and for

irrigational use. Actually there is no waste water but water with load of waste and wasted water.

We cannot afford to waste water brought to us by rain/snow and with filtration by soils and rocks strata.

- (a) First policy change as required seems to be: Empowering a River Authority that can have the powers to plan, implement and regulate the works essential to clean the river and regulate its flows.
- (b) All surface run-offs have to be prevented by guiding the run-offs into water bodies, at least partially lined and piped inter-connectivity of water bodies is a must.
- (c) Seasonal rivulets only should be treated as sources of surface run-offs and should be upgraded to provide for constant flow rate into the perennial river/river tributaries and a recharge into the underground waters.
- (d) Use of all categories of water should be standardised irrespective of location.
- e) Policy framework may be needed to be developed for sales of surplus water to other States as so far, non-revenue political solutions only have been allowed in the legal frame work.

What is the quantum of opportunity you see in the water and waste water management segment in the country in the next fiscal?

We are still scratching the crust as regards management of wastewater and wasted water. With this mission, the market based upon potential opportunities for use of tertiary treated water to bring more area under irrigation is opening up. It has to be continuation of budgetary allocations with 10 to 15 per cent increases on a year-on-year basis, for MIS and for potable water supply as per patterns since the last few years with fresh allocations specific to the additional tasks/projects as are required to be attempted such as ensuring no contamination of our rivers and their tributaries and interlinking of water bodies to conserve the surface waters.

Besides the funding and allocation of adequate project finance to the River Authority, all other policies of the government with reference to potable water distribution on a 27x7 basis, MIS, and only an exact irrigation within the root zone depth of plants and sewerage system rehab and augmentation, funding of STP and ETPs should be with incremental budgetary allocations as these measures shall reduce per capita expenditure on public health.

River water projects need to be planned with sequential sub-plan modules dovetailed. It is necessary, i.e., one cannot just clear a river of solid wastes and pollutants if dump-yards for municipal solid wastes are not located appropriately.

- GARIMA PANT