

# THE JERUSALEM POST

## Preserving a highly polluted holy river

By SHARON UDASIN 03/05/2012 23:16

Israeli water experts express interest in tackling the Ganges River rehabilitation project in India.



Hindus gather at Ganges River Photo: Adnan Abidi/Reuters

India's 2,510-kilometer Ganges – or Ganga – River provides spiritual and cultural sustenance to the half a billion people who dwell along its banks and is holy "Mother Ganga" to most Hindus, yet its waters are among the most polluted in the world.

"Many people say Ganga was brought to this earth for a special purpose," Prof. Vinod Tare, of the Indian Institute of Technology Kanpur, said in Tel Aviv on Monday. Its rehabilitation must therefore occur in a delicate fashion that will not change these special qualities, he said.

Tare, along with colleagues from various Indian academic institutions, was addressing Israeli water experts, innovators and investors who have expressed interest in becoming involved with the river's decontamination, at a seminar held at the Israel Export Institute.

In partnership with India's Environment and Forest Ministry, teams from seven institutes – including Tare's – are creating a plan for the river's environmental management and to restore its "wholesomeness," according to Tare.

The river touches portions of Nepal and Bangladesh, along with the 11 Indian states along its banks, and is generally divided into three sections – the Upper Ganga, the Middle Ganga and the Lower Ganga, Tare explained.

The middle section is the most polluted, due to human actions, while the upper portion is the cleanest and contains a wide range of biodiversity and fragile ecosystems. In the lower segment, sediment flowing in from Nepalese tributaries cause various problems, Tare said.

By rehabilitating the river – a project he estimated would take about 25 to 30 years and about \$20 billion – the team hopes to ensure continuous water flow, entirely unpolluted waters with "zero discharge" and recycling of wastewater.

"We believe that it is going to be a very long journey," Tare said.

Many kinds of waste pour into the river – from old cities, new cities, village dwellings, paper pulp, distilleries, tanneries and agriculture – and each type of waste will demand a different technology and strategy. There is a huge amount of fecal coliform in the water, particularly during the rainy season, according to Tare. In conjunction with cleaning up the river, Tare said he hopes to encourage sustainable agriculture, and he reminded his audience that even a 10 percent increase in agricultural efficiency around this giant river would produce an enormous improvement in its water quality.

"We have not been doing a good job at managing water resources," said Prof. A. K. Gosain, head of the civil engineering department at the Indian Institute of Technology Dehli. "This is not a one-time job, there has to be a strategy that is put in place."

The situation has become so bad that the contamination is seeping into the groundwater, Gosain said.

"We need to really look at how we can use the latest scientific approach to manage this very precious scientific resource," he said, adding that the government bodies and groups involved with the project must work more cohesively together.

Such scientific approaches are where Israeli water innovators could help in the project, the Indian experts said. Already, 15 countries have become involved with the plan, according to Sanmit Ahuja of ETI Dynamics, a United Kingdom-based firm that focuses on “delivering economic impact to high growth and emerging markets.”

“The fact that we are here today means there’s a lot of desire in Israel to participate in this mega-monster project,” Ahuja said.

The project demands various types of sewage and sewer systems, solid waste management, industrial effluents treatment, information technology, research and innovation, Ahuja said.

But he warned that in such a huge country, with 853 languages and dialects, companies cannot just “drop [their technologies] into the Indian ecosystem,” and instead must come in with an entire economic package and business plan. To help make this easier for smaller companies, the Indian experts will meet with several Israeli officials on Tuesday, to discuss creating a unique interface through the Israeli government for firms that would like to participate in the project, Ahuja added.

“Do not be discouraged by the size and the time frame of this project,” Oded Distel, director of the Labor, Trade and Industry Ministry’s Israel NEWTech told the Israeli attendees.

“It’s a challenge, but at the same time it’s a huge opportunity, and I think that we have a very good framework both in India, here and in Washington that can support the efforts being done by all of us.”

Because of the size of the project, “all kinds of Israeli technologies can be relevant” to cleaning up the river, Distel told *The Jerusalem Post* after the seminar.

“I would say that it would be wise to start with the most painful or crucial elements on their agenda – industrial wastewater treatment, elements of modeling and bringing smart solutions into these areas, and then the entire scope of water management,” he said.

While it is certainly true that companies involved will need to have solid business models in addition to great technology, small firms should not shy away from participating, according to Distel.

“What we’re trying to do is to create the platform for the Israeli companies so that it will be easier for them and they’ll get the full support from the governments here and in India,” he said.

“The challenge is to bring companies that focus mostly on the technology and to open their minds to think of all the other angles of this deal and to engage them in a process that is going to take some time.”

One such Israeli company that is interested in participating is the small, Moshav Zipori-based Ayala Water and Ecology, which employs constructed wetlands and natural biological systems to clean water and soils. An advantage of its system is that it is built and integrated within local communities and existing nature and does not require any outside know-how or manpower to operate, said Tamar Bodek, head of research and development at Ayala. The company is already operating its systems in the Indian city of Hyderabad and has a few other Indian projects in the pipeline, as well as ventures throughout Israel, Chile and France.

“I think this room is filled with people with wonderful technologies, but they require a lot of human maintenance,” Bodek told the Post.

Ayala executives know that it will be a difficult process for a small company aiming to dive into an enormous project.

“We know we are going to face huge companies, and it won’t be easy,” Ayala CEO and founder Eli Cohen said. “We are trying to join a big company – local Israeli or maybe Indian – and do it together.

“We have the confidence that this is part of the solution,” he said.