

NTU helps to clean lake in Sri Lanka

Project uses canna plant to get rid of pollutants in water

By LIN ZHAOWEI

KANDY (Sri Lanka) – As a teenager, he would quicken his pace when he passed the polluted Kandy Lake and the Mid-Canal on his way to school.

Some 20 years later, when Dr Shameen Jinadasa returned to his hometown after his postgraduate studies in Singapore and Japan, he decided to do something about it.

With the help of researchers from the Nanyang Technological University (NTU), the 38-year-old embarked on an ambitious project to clean up the 18ha lake in the sacred city – a Unesco World Heritage Site.

“When I walked past the lake in my younger days, I sometimes saw dead fish and algae formations in Kandy Lake, and the Mid-Canal was also very dirty,” said Dr Shameen, who started teaching at the University of Peradeniya in Kandy in 2010.

With a growing residential population and greater commerce, the waterway has become a dumping ground for anything from bottles to animal parts from the slaughterhouse. “I thought that it’s not good for the environment and our health,” he told Singapore reporters who visited the lake as part of a trip last week sponsored by NTU’s Nanyang Environment and Water Research Institute (NEWRI).

Since 2010, he has been working with NEWRI to find a cost-effective solution. They came up with “floating wetlands” that look like ornamental floating flowerbeds.

The way it works is that each “wetland”, measuring 1.8m by 1.2m, is covered with plants that help to

trap river sediment and absorb pollutants such as nitrogen.

Dr Shameen and his team from the University of Peradeniya used cannas as the natural “filter”. The flowering plant, native to the region, was found in experiments to absorb up to 60 per cent of pollutants within four days. It is also pleasing to the eye – an important consideration because the lake is one of the country’s top tourist spots.

Currently, three pilot plots are floating near an inlet at the lake’s south-east. Another 17 will be up within the next three to four months. Eventually, 100 in total will be installed, costing about \$40,000.

The NTU-University of Peradeniya project is funded by the philanthropic Lien Foundation, under a fellowship programme for researchers working on projects to improve water, sanitation and energy efficiency in less developed parts of Asia.

Successful candidates work with NEWRI specialists for up to six months to develop solutions. Six other projects are under way, including one in Myanmar to set up clean water systems at Inle Lake.

The Kandy Lake clean-up will be a gradual process. Professor Ng Wun Jern, executive director of NEWRI, said the plants in the three pilot plots look extremely healthy.

“Over time, when the plants don’t seem so healthy any more, we know that the water is much cleaner,” he said.

The project is expected to benefit all 150,000 Kandy residents because water from the lake and Mid-Canal flows into the Mahaweli River, the source of their water.

“So if the water in the river is clean, the government will spend less money to treat the water,” said Dr Shameen. “This will mean less expensive water bills for residents.”

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Three plots of “floating wetlands” (above, foreground) were installed to filter out pollutants and silt at an inlet to Kandy Lake in central Sri Lanka. Eventually, 100 of them will be installed. Such wetlands are also used elsewhere in the world, including Singapore and the United States. ST PHOTO: LIN ZHAOWEI

NTU-Sri Lankan varsity tie-up

NANYANG Technological University (NTU) students will benefit from more overseas field work opportunities, with a new tie-up with a top university in Sri Lanka.

Last Monday, a memorandum of understanding was signed between NTU and the University of Peradeniya in Sri Lanka’s Kandy city. It will provide for staff and student collaborations in the area of environmental engineering.

NTU president Bertil Anderssen told reporters that non-engineering students – such as those from humanities and media studies – will have a chance to participate in the tie-up, as environmental issues have to be addressed from many perspectives. “It’s important to know that there is a cultural context in addition to the technological context,” he said.

The upcoming Lee Kong Chian School of Medicine at NTU could be involved as well, as contaminated water is among the biggest killers in the world, he added.

Prof Anderssen emphasised the need for students to have hands-on experience in addition to class and laboratory work. “When you talk about the environment, you have to have a real case... Sri Lanka is a fantastic student laboratory,” he said.

He also revealed that he is thinking of setting up a school for environmental and earth science at NTU, hopefully in the next three years. This is because he expects demand for expertise in such areas to rise. He said: “Singapore has all the chances in the world to create an environmental industry, and have environmental start-ups.”



AN AGE-OLD PROBLEM

When I walked past the lake in my younger days, I sometimes saw dead fish and algae formations in Kandy Lake.

– Dr Shameen Jinadasa (left)

