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Bengaluru Students Win Medal For Their Solution That Can Save City's Dying Lakes



[Nirupama V, ET Bureau](#)

September 26, 2016

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Eight students of CMR Institute of Technology, here, have won gold medal for their project on the use of fly ash, to rid dying lakes of pollutants and restore their health.

The recent 'Indian International Innovation Fair', held in the city, recognised their project as an out-of-the box solution.



economic times

Their project offers a solution to two issues - overflowing plastic garbage and polluted lakes - plaguing Bengaluru.

Fly ash can be used to treat Bengaluru's polluted lakes, while being combined with plastic waste to manufacture flexible composite bricks.

Fly ash is a byproduct of coal combustion, generated by thermal power plants and cement factories. The fine grey particles transported by the wind and deposited in surrounding localities are known to cause or worsen respiratory disorders and make soil infertile.

The second and third-year students from different departments - Nithin Kumar V , Pranav Bhat, Sudarshan MS, Gururaj R, Vinay Kumar BA, C J Anoop, Pavan R Reddy , Naren M - have collaborated on this project and won several accolade.

When Karnataka State Pollution Control Board chairman, Lakshman, inspected the dying Varthur lake last week, where he interacted with the team. "He said they will consider using the method to treat the highly polluted waters of the lake and asked us to conduct further tests," said V Nithin Kumar, a second-year ECE student.



inhouse.digital

The idea was born around this time last year. During a chapter on water technology, students were looking for solutions to the city's polluted lakes.

"It is known that fly ash can adsorb heavy metals and organic matter present in a solution," said Kumar.

The team tested it with a sample of water from Bellandur lake and found that the brown/black water became clear and did not smell anymore.

"About 100 ml of water can be clarified in five minutes by adding one-tenth of fly ash. When speeded up using vacuum, it can be done in a matter of seconds," Kumar explained.

A simple filtration then separates the fly ash and other pollutants from the water. Combine this with waste plastic to make bricks and the result is a highly flexible brick that can better withstand tremors.

"These bricks can be used in noncritical constructions such as walls and temporary army camps. We hope to implement these ideas and take them to the market," said CJ Anoop, a third-year student of Information Science.

While it is a promising proposition, it may not be practical to implement.

Professor TV Ramachandra, Coordinator of Energy and Wetlands Research Group at Indian Institute of Science, while appreciating the work of the students, said: "As fly ash does not absorb all nutrient content, it may not be the right method of purification for large water bodies such as lakes. It can be useful in smaller and specific purposes such as treating effluents within a factory or in industry dry-cleaning."

The team has already signed an agreement with an apparel manufacturer to use this method to treat the effluents.

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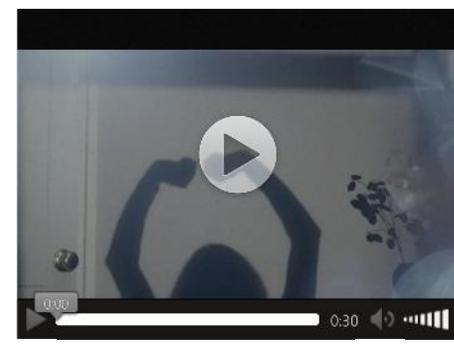


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Worried Pak May Take Indus Water Treaty Issue To UN



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Pakistan would treat it as "an act of war" if India revoked the Indus Water Treaty, regulating river flows between the two nations, Pakistan's top foreign official said.



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Tension has been mounting between the nuclear-armed neighbors since at least 18 Indian soldiers in the disputed Kashmir region were killed this month in an attack that New Delhi blames on Pakistan.

India had on Tuesday summoned Pakistan's High Commissioner in New Delhi to inform him about two men from Pakistan now in Indian custody who it alleges helped gunmen cross the disputed Kashmir border before the attack.



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One retaliatory move being considered by Prime Minister Narendra Modi is for India to "maximize" the amount of water it uses including by accelerating building of new hydro-power plants, along three rivers that flow into Pakistan, a source with knowledge of a meeting attended by Modi on Monday told Reuters.

But using more of the river's' water is still likely to hurt Pakistan as it depends on snow-fed Himalayan rivers for everything from drinking water to agriculture.

Sartaj Aziz, foreign policy adviser to Prime Minister Nawaz Sharif, said Islamabad would seek arbitration with the Indus Water Commission which monitors the treaty if India increased the use of water from the Chenab, Jhelum and Indus rivers.



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However, if India revoked the treaty, Aziz said Pakistan would treat that as "an act of war or a hostile act against Pakistan."

"Highly irresponsible on part of India to even consider revocation"

The treaty was signed in 1960 in a bid to resolve disputes, but India's ambitious irrigation plans and construction of thousands of upstream dams has continued to annoy Pakistan.

India currently generates about 3,000 megawatts of energy from hydro-power plants along rivers in its portion of Kashmir, but believes the region has the potential to produce 18,000 megawatts and says it can use more water and still remain within the [terms of the treaty](#).



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Aziz said India's provocative posturing constitutes a breach of the Indus Water Treaty and "threats of a water war are part of a military, economic and diplomatic campaign to build pressure on Pakistan", and deflect attention from civil unrest by the Muslim population in the Indian-ruled side of Kashmir.

Inputs From Reuters

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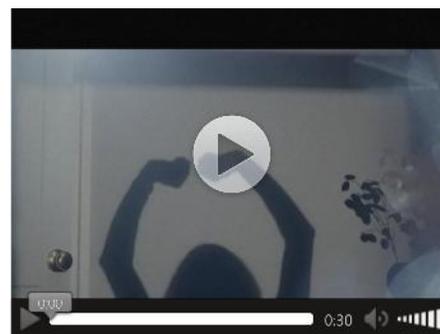
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