

CNR Rao warns govt: Funds drought may push scientists out of science

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Bharat Ratna Prof CNR Rao (Express Archive)

Bharat Ratna Prof CNR Rao has expressed grave concern over the lack of funding for scientific research, saying scientists in India might have to look for alternative careers if science continued to be starved of money.

"I am not asking for big money. Even the existing money is being cut. It is already marginal funding. I think we will all have to close up and say, 'look here, what else do I do next other than science?' The government has to look into that," Rao said at the annual meeting of the Indian Academy of Sciences in Pune on Friday evening.

The Indian Academy of Sciences is one of the three top associations of scientists in the country, the others being the Indian National Science Academy and the National Academy of Sciences. The three academies together formed an Inter-Academy Panel on Ethics in Science a few months ago, with the objective of maintaining ethical standards in scientific research.

Last week the panel issued a statement against recent incidents of intolerance in the country, and sought "exemplary punishment" for "trespassers of reason and right". A day later, more than 100 scientists issued a separate statement denouncing incidents of intolerance.

Dipankar Chatterji of the Indian Institute of Science, who is the president of the Academy, said members of all three academies of science agreed with the statement issued by the Panel on Ethics in Science. "We have an annual general meeting, and we will endorse that statement. The panel has been created by us and we agree with what it said. All the three academies agree. We hope that intolerance, or whatever you call it, is a temporary phenomenon and will be dealt with by the government in an appropriate manner," he said.

Rao, one of the dozens of Indian science, expressed despair over the minuscule budgets for science, which he described as "disgusting".

"Last year, many of our institutions' budgets were cut. The cuts still continue. In an institute like mine, the Jawaharlal Nehru Centre for Advanced Scientific Research, the shortage of funds was Rs 10 crore. It is so little. It is disgusting even to mention this in a big country like ours. The total money required to make up for the deficiencies of budgets across all institutions, put together, I have calculated, comes to about (Rs) 1,500 crore. That's all. Or a couple of thousand crores. This is trivial money for India. But nobody cares," the 82-year-old Rao, who was head of the Scientific Advisory Council to the Prime Minister in the previous government, said.

Chatterji said it was "very difficult to do science when you have to keep worrying whether your project would continue to get funding the next year.

India's expenditure on science and technology has remained roughly between 0.8 per cent and 0.9 per cent of its GDP, even though it has increased substantially in absolute terms because the GDP itself has grown. For the last several years, Prime Ministers, at their speech at the annual Science Congress every January, have spoke about the need to scale it up to 2 per cent of the GDP.

Rao said even the existing budget was not being prioritised properly.

Yamuna Aarti to bring Delhiites closer to river

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NEW DELHI: As part of their effort to bring the people of Delhi closer to the river, the Delhi government has planned a Yamuna Aarti in the city on November 13.

"We will bring the same people who organise the aarti on the banks of Ganga to organise an aarti here. The basic idea is to bring people to the river so it becomes a part of their

lives. Once that happens, people will automatically start caring about its condition," said tourism minister and Delhi Jal Board chairperson Kapil Mishra.

Last month, the government hosted water sports such as canoeing at Wazirabad, where the river is much cleaner than it is downstream.

"The aarti will be held at the Geeta Ghat, which is near the Kudesia Ghat. We want it to be a daily affair. We will

ACCORDING TO DELHI JAL BOARD CHAIRPERSON KAPIL MISHRA, THE AARTI WILL BE ORGANISED EVERY DAY AT THE GEETA GHAT.

have priests from Ganga ghats performing the prayer. We are not planning to carry out an extensive cleaning exercise as the people should know what

the river is like. Everyone is welcome to be present. The chief minister will be there on November 13," Mishra said.

The government has been conducting regular cleanliness drives at the river for the past three months. In September, several government officials took a boat ride along the most polluted stretch of the river. A greening drive was also launched along the river.

Cleaning the river has got a massive push because of

a judgment passed by the National Green Tribunal in January this year under which issue, including interceptor sewers, encroachment and ensuring minimum flow in the river have been discussed.

The government, for its part, has also been planning several activities on and along the river to make it a central part of people's lives. This may hamper people from polluting the river and encourage them to take steps to save it.

The tragicomedy of being forced to import sand

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Narendra Modi wants to create millions of jobs. India's biggest job creator is construction, creating over 20 million jobs in the last nine years. Jobs in other sectors are growing slowly, or falling. Yet construction now faces a problem that is as comic as tragic.

Once, India's growth was hobbled by shortage of foods, foreign exchange, or skills. But now we have a bewildering new shortage: a shortage of sand.

Wooden environmental regulations, bureaucratic overcaution, plus a politician-mafia nexus, have created this shortage. Sand is mixed with cement and gravel to produce concrete. Without concrete, construction will grind to a halt.

Two years ago, I wrote that if the sand shortage continued, India would soon be importing sand. This invoked much mirth. One reader said when Saudi Arabia runs out of oil, it can stay rich by exporting sand to India.

This is no longer a joke. Last month, Maharashtra started importing sand from Indonesia and the Philippines. One ship with 50,000 tonnes of sand has landed, and more are coming. Just imagine, a country with silted rivers and canals, with all the sand of the Arabian Sea and Bay of Bengal, is importing sand from distant lands. Can there be a worse example of regulations gone haywire?

Two years ago, the sand mafia used its political clout to force the suspension of Durga Shakti, an IAS officer who tried to stand up to illegal sand mining in Uttar Pradesh. The media and Opposition politicians were outraged. The National Green Tribunal responded by tightening even further the rules for legal mining. It banned sand mining on even the smallest areas without clearance from the Ministry of Environment and Forests or the State Environment Impact Assessment Authority.

This was well-intentioned. But curbing legal mining does nothing to reduce illegal mining. Indeed, curbs on legal mining have worsened the sand scarcity, and made illegal mining more profitable than ever.

Such problems often arise with judicial over-reach, when courts begins to issue executive orders. Courts are designed to judge whether something is right or wrong.

They are not designed to make policies that ensure adequate supplies while checking environmental excesses. The courts are not accountable to anybody if their rulings create a sand shortage, or make illegal mining more profitable than ever.

Sand helps rivers absorb water in the rainy season and release it in the lean months. Hence excessive sand mining can damage river flows, and must be checked. But the answer is not to simply ban mining. Rules must be framed to greatly expand legal mining, and ensure that the needs of a growing economy are met. India is still a poor country with a low rate of construction. What will happen if GDP keeps expanding fast, and India soon needs thrice the sand we use today? No court, NGO or TV anchor seems bothered about that.

State governments issue licences for sand to be mined from rivers and tanks. Politicians in the past have, notoriously, demanded bribes for sand mining licences. After the anticorruption movement of Anna Hazare and intervention of courts, this has become difficult, and a new problem has arisen. District officials in UP say the National Green Tribunal's rules are not clear-cut, and leave room for different interpretations. So, to avoid any corruption accusations, many officials have simply stopped issuing new licences.

After the Durga Shakti incident, one news report said Uttar Pradesh used to allot 2,800-3,000 leases per year for mining sand, gravel and boulders, but this had come down to 1,900. One official said that in four districts, old leases expired and no new ones at all were issued. UP is not alone: other states are following suit.



Curbing legal mining has only made sand scarce. The mafia will disappear if legal supplies are plentiful.

Mumbai builders say the sand scarcity has sent its price soaring from Rs 5,000 to Rs 13,000 per 100 cu ft. Imported sand will cost Rs 20,000, but there is no legal alternative. New Delhi seems to have ignored the problem since sand is a minor mineral, falling under the jurisdiction of state governments. But the sand shortage is now affecting all construction, and even the balance of payments.

A national plan is urgently required to step up the supply of legal sand. The sand mafia will disappear if legal supplies are plentiful. Regulated desilting of rivers, reservoirs and canals can yield large amounts of sand for construction without causing environmental damage. Dredging to build new ports and maintain old ones will yield ample sand for coastal towns. Environmental rules today curb offshore sand mining, and need intelligent liberalization. Why go to Indonesia or the Philippines for sand when trillions of tonnes are available along the coastline, and billions more are available in silted rivers and canals?

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