INO Project

What is the issue?

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- In March 2017, National Green Tribunal (NGT) suspended the environmental clearance (EC) granted to the India-based Neutrino Observatory (INO), and ordered it to file a fresh application for clearance.
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- This had made India to suffer a procedural delay to join the elite club of countries undertaking neutrino research.
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What is the INO project?

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- Neutrinos are tiny particles, almost massless, that travel at near light speeds.
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- They are born from violent astrophysical events like exploding stars, nuclear fusion in the sun and gamma ray bursts.
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- They are abundant in the universe, and can move easily through matter.
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- They are very difficult to track down.
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- The proposed INO project primarily aims to study atmospheric neutrinos in a 1,300-m deep cavern in the Bodi West Hills in Theni district, Tamil Nadu.
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- If completed, it would house the largest magnet in the world.
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- Neutrinos hold the blueprint of nature, which the INO project aims to use to understand some of the unsolved mysteries of the universe.
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What are the concerns?

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- The explosives used in construction are considered a threat to the highly sensitive ecology of the Western Ghats.
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- But the excavation is planned to be carried out by a controlled blast, limiting the impact of vibrations with the help of computer simulations.
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- There are questions about the relevant radiation safety studies for carrying out the long baseline neutrino experiment.
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- But an underground lab accessed by a 2 km-long horizontal access tunnel, resembling a road tunnel is to be constructed.
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- Such tunnels have been built extensively in India and the relevant studies show that the environmental impacts have been managed.
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- In the second phase, a far detector for the Neutrino Factory has been initially planned.
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- It is a proposed particle accelerator.
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- This may not be necessary because of the discoveries already being made in the field.
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- Even if you build it, the radiation from the neutrino beam would be one in 100 millionth of the natural radiation, which is negligible.
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What should be done?

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- Allegations such as neutrinos being radioactive particles and that the INO will double up the storage of nuclear waste do not hold ground.
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- Such assumptions and procedural lapses have pushed this project into a limbo.
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- Any further delays could defeat the purpose of the project because similar projects elsewhere could undermine India’s efforts.
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- We should generate sufficient public support for such high technology and

science projects.
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- The communication between the scientific community and the public should be more basic and democratic.
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Source: The Hindu

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