

## OF TAMARIND SEEDS AND MICROPLASTIC

**A**vyana Mehta, Ariana Agarwal and I have won The Earth Prize 2026. It is a prestigious youth environmental prize and we won it for building Plas-Stick, which is a low-cost powder made from tamarind seeds and removes microplastics from drinking water. We have already introduced it in six government schools across Rajasthan, helping over 8,000 children drink cleaner water every day without using electricity or expensive equipment. We have already been awarded \$12,500 (nearly ₹12 lakh) to scale up when we won The Earth Prize Asia.

The three of us are classmates and we realised the magnitude of the microplastics problem while on a visit to a government school where we saw a child drinking from a shared water container, completely unaware of what could be in it. What made it worse was knowing that solutions like reverse osmosis or advanced filtration — systems that actually get rid of microplastics — were out of reach for India's poor.

That moment stayed with us and forming the team felt natural — same classroom, same concern, same need to actually do something about it.

After we had a working concept, we needed scientific validation. We cold-emailed Rahul Patwa, an IIT Guwahati graduate and polymer research expert. We hadn't really expected a response but he replied and walked us through the chemistry. His mentorship



**INNOVATORS:** (From left) Avyana Mehta, Vivaan Chhawchharia and Ariana Agarwal

was invaluable in taking Plas-Stick from a classroom idea to something concrete and testable.

What surprised us was that our first choice of material worked. We had built the idea around tamarind seeds from the beginning and when the microplastics visibly clumped together that first time, we couldn't believe our eyes.

Tamarind seeds are



**An experiment demonstrates Plas-Stick's ability to bind**

discarded as waste but have natural binding properties.

The name for the project came spontaneously. We kept saying plastic, plastic, plastic during one of our sessions and somewhere in that repetition, Plas-Stick just appeared. No whiteboard, no brainstorm. Just

us talking too fast.

We tested the formulation in lab conditions first and then did pilot projects in six government schools across Rajasthan. You add a powder to the water, stir it, wait 30 minutes and then use a magnet to pull out the microplastics now clumped together and visible. Simple and quick.

With the Earth Prize funding, we plan to scale up and expand to 40,000 users by the end of 2026. We're setting up local production hubs so that the powder can be made closer to the communities using it.

We're also prioritising third-party validation — meaning independent laboratories will verify that Plas-Stick's 90 per cent removal efficiency holds up across different water conditions and geographies. That is what will build trust with institutions, government bodies and CSR partners. The goal is to eventually treat over 100 million litres of drinking water.

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