

“Careful with that... he’s fragile!”

Aesha remembers her father’s calm voice in her ear as they sat in their dying, yet beautiful garden, and caterpillar made its way along her index finger. It was a bit of a theme of her childhood, this fragility of living things. Maybe it was his way of preparing her for the day he would not be around anymore. He flew some of the most extreme machines in existence. There was always a high chance that he would fall. But in contrast, there was also the resilience of Life.

“You’re me,” he would joke, when she once observed how similar their noses were, “Just tinier and sillier.” Hardeep Singh had been a test pilot and astronaut for ISRO’s Akasa City project, having left the Air Force for greener pastures.

Figuratively speaking, of course. The fact that there weren’t many green pastures left in the world after the first half of the 2200s was one of the reasons that the military had become redundant. Climate change deniers of the previous century had become as extinct as Elephants and Earthworms. Humanity as a whole had bigger problems than political bickering between people living on opposite sides of imaginary lines, for the first time in history, as forests and farmland shrunk before rising tides and temperatures.

That was when China and EU-America had started work on High Orbit Mass Habitats, soon followed by almost every major nation on Earth. Cities in space. The HOMH acronym, ironically was soon forgotten and everyone just called them Homes. Akasa City was India’s HOMH project. Hardeep hoped that being on the project would get him and Aesha a place there, so he offered his extensive experience as a fighter pilot to ISRO.

But Aesha never warmed to the idea. To her, the HOMHs were an escapist and ultimately unviable solution. There was no way 6 billion people could all live in Homes. If the world was sick, it needed to be healed, not abandoned. She had faith in the Earth’s ability to recover... it just needed a little help. So, from her garden, she had made the leap into Agrotech and a Masters and a couple of PhDs later, found her place in Gaia Corp.

When the world’s coastal cities had started to flood with alarming regularity while the hinterlands had the fecundity baked out of the soil causing multiple megafamines, it had suddenly become profitable for businesses to care about the environment. Gaia Corp was a small but cutting edge company that focused on rejuvenation of agricultural land.

Aesha joined them, and along with Aimon, her tech assistant, dived headfirst into the practical implementation of her thesis – she called it Live Rain. Spreading cultured bacterial spores across large tracts of barren land to kickstart it, hoping to make it suitable for agriculture and forestry in mere years instead of the decades that it would otherwise take.

They realised that their first issue was scale. It would take a certain critical mass of near simultaneous bacterial deployment for it to be able to sustain itself in the arid wasteland that was their target. Drones were the way. Thousands of small drones dispersing thousands of bacterial cultures over hundreds of square kilometres, again and again and again until they took hold and the soil started recovering. Aimon was mainly Aesha’s drone guy. He found that solar cells wouldn’t cut it for power. At her prompting, he had been able to modify their tiny engines to work on bio-fuel... the waste products of the very bacteria it was carrying. This had the benefit of the fuel for the drones being available in the location where they flew. The drones would disperse their cultures, then descend and ‘feed’ on the bacterial waste to refuel. They would also refill their dispersal tanks with

more bacteria, and then take off again, to spread their fresh payload over new terrain. The second issue proved to be a bigger challenge. Survivability. The drones would have to spray the bacterial cultures at considerable altitude to be able to cover large tracts of ground.

But the bacteria were fragile.

In multiple simulations and tests, the cultures didn't survive deployment in enough of a quantity to be viable on the ground later.

Aesha and Aimon were in the middle of grappling with this problem when she first heard the term 'The Human Meteor' on a newsfeed.

They were referring to her father.

Hardeep had been working on the Akasa City project and they had problems of their own.

Construction of the HOMHs had slowed to a crawl. Construction crews were required to be sent to orbit in increasingly larger numbers. And the best way to do that was to send them in large, disposable rockets that would dock with the construction sites, capable of carrying upto 200 workers at a time. The rockets were not capable of re-entry and were meant to be cannibalised into the construction of the HOMHs. Shuttles couldn't be made to carry more than 15 crew at a time. This raised the obvious issue...workers needed to be rotated out every few months...how do you get them back down to earth again? Hardeep proposed the cutting of the Gordian Knot. "We just jump", he shrugged when he first heard about the problem. As a test pilot he had gained extensive experience in high altitude parachute jumps, including a few suborbital ones. The idea gained traction quickly and ISRO engineers were assigned. It took months of simulations. But in the end, they basically encased Hardeep in a sphere of pyrophobic bio-gel grown in an orbital lab from volcanic algae and shot him out of a cannon towards the earth. The gel burned away by the time he reached the altitude to deploy his chute, but his trajectory was marked by a streak of fire across the sky. The newsfeeds made sure that image spread around the world.

The Human Meteor.

"Papa, they're calling you a meteor," Aesha cried when she called him.

"I know! I reached the earth, didn't I? I'm a meteorite," Hardeep said, sounding miffed, "Thank Aimon for helping my engineers out, by the way."

"Aimon helped you?"

"Yes indeed. Some pretty important stuff related to the algal bio-gel... "

Algal bio-gel. Of course. The blur of days and nights went on, relentless.

"Calculating survival markers," Aimon said, a few days after the first dispersal test, studying the satellite imagery, "98.72 percent. "

Aesha whooped in delight. Her bacteria, enclosed in droplets of algal bio-gel, had made it to the ground. Aimon's drones had done two refuel-reload cycle with negligible loss. The system was good. It would work. They could pull arable land back into use.

She would have hugged Aimon, but Agricultural AI Mark ONE was kind of reserved, that way.