

# Just one more door to apocalypse

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## Scientists argue that there has been insufficient attention to the justice aspects of these earth system boundaries



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Harini Nagendra prides herself on barking up all trees, right and wrong. Credit: DH Illustration

Due to human impacts on the planet, we have already transgressed seven of eight critical earth system boundaries that are essential to maintain a resilient, safe and just living environment for people. This alarm bell was sounded by the Earth Commission, a team of expert scientists from different parts of the world who have worked for many decades on global environmental change. In a new report in the journal *Nature*, titled 'Safe and Just Earth System Boundaries', they say that global warming above 1.5C (a threshold which we are likely to cross for the first time this year) will harm more than 200 million people, most of whom are already poor, vulnerable and marginalised.

Water availability, another of the earth system boundaries that is essential for human survival, is also at risk. Groundwater is running out in half of the world's major river basins – areas where sub-surface water should be plentiful, abundant, not scarce and dwindling. Clean, fresh, potable water is essential for human consumption, but water is also needed for irrigation, to produce food to feed the growing numbers of people on the planet. And as rivers run dry, the water cycle is affected – there is less water in the soil, ultimately impacting the amount of rain we get, creating a vicious cycle that leads to a steady shrinkage in water availability.

Air pollution constitutes another earth system boundary that has been breached, with spectacular consequences. Large parts of the eastern coast of the US have faced an air quality emergency this week, because the smoke from forest fires in Canada – triggered by climate change – has migrated across national borders. Microscopic particles of soot, suspended in the smoky air, make their way deep into the lungs of people, impacting the most vulnerable – construction workers, delivery workers and others whose job demands that they are out on the streets, exposed to toxic air.

Critically, these scientists argue that there has been insufficient attention to the justice aspects of these earth system boundaries. What does this mean for India? Countries like India are especially impacted, with many of the earth system boundaries being transgressed – climate warming, air pollution, depletion of surface water and ground water, excessive concentrations of nitrogen and phosphorus (from the overuse of fertilizers), and air pollution.

The impacts are of three main kinds. First, the intra-generational – the burden of environmental collapse falls on those who are poor, marginalised or otherwise vulnerable – a lesson that is only too fresh in our minds after the recent horrors of the pandemic. Second, there is inter-generational impact – the damage we have done, and continue to do, to the world today will be disproportionately borne by the young and those yet to be born, for generations to come. Third, the inter-species impact – human actions on the environment hurt other species, from tiny ants and bees to large charismatic species like the elephant, tiger and rhinoceros.

India is just recovering from the impacts of extreme heat waves, with many parts of the country reeling from the scorching heat, that has held deadly consequences for many – especially the homeless, and those who depend on daily labour, outdoors, for their food and sustenance. Many heat records have been broken this year, resulting in electricity outages, water scarcity, and outbreaks of diseases that have forced school closures, and impacted economic production across the country.

Just as the rains bring welcome relief to Bengaluru, the city is bracing itself for another environmental catastrophe – flooding – caused by the steady destruction of its lakes and wetlands. Once again, the impacts will be worst on the poor, the young and the voiceless – which includes the non-human living beings with whom we share our world, our city, our lives.

Reams of newsprint have been written about these issues. Promises have been made, and broken – promises of planting trees, restoring lakes and wetlands, cleaning up the city's polluted air, protecting ecology and the environment. But the altar of 'progress' is insatiable, and the demands for return on investment stronger than the awareness of risk. We stand, balanced on the knife-edge of a precipice. Is anyone paying attention?