50+ scientists write Boston College, Florida International challenging decisions to give philosopher Vandana Shiva an unfettered platform to spread disinformation on crop biotechnology without balancing perspectives from actual scientists?

## **EVENTS:**

- Boston College, February 6: <u>Vandana Shiva: My Life in a Biodiversity of Movements Part of by Rewilding</u>
   Planet Earth Series
- Florida International University, February 8: Voices for a Planetary Ethos: Conversations with Vandana Shiva

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We are scholars and journalists of life sciences and social sciences from around the world who have published hundreds of scholarly papers and articles about agriculture, food, biomedicine, and related biotechnologies; some of us are science communicators and agronomists.

We are contacting you in response to the scheduled appearance of Dr. Vandana Shiva. We are concerned about her history of promoting views out of step with modern science and for endorsing policies that undermine global food security. There is near to universal belief by scientists and journalists (from perspectives as ideologically diverse as Grist, Discover, The New Yorker, and Forbes: see the references below) that Shiva fosters distorted ideas, often demonstrably false, about a variety of issues but most prominently the safety of vaccines and the use of sustainable agri-food technologies.

We are surprised that a science-based and ethically inspired institution would invite her to speak, let alone without an opportunity to balance her views with evidence-grounded science. We hope you will consider posting this letter to the announcement and make it available to those attending the event.

Here are just a few examples of Shiva's viewpoints which end up hurting the very people she purports to support.

- 1. Shiva promotes and endorses anti-vaccine <u>conspiratorial viewpoints</u>. She recklessly echoed the far right-wing claim that more people died from getting a COVID vaccination than from COVID itself. She <u>stated in July 2021</u>: "In England more people have died, who were vaccinated than those of who are not." A statement that was only true in 2022 for one month, as a new variant swept through Europe. She frequently partners with vociferous promoters of vaccine denialism, most notoriously Robert F. Kennedy, Jr who recently published <u>a conspiracy book</u> claiming COVID was a government-Big Pharma conspiracy. Shiva is a <u>contributor of disinformation</u> on RFK, Jr.'s conspiracy Children's Defense Fund site.
- 2. Shiva does not understand some basic science, e.g. saying: "Most #GMOs are #Bt toxin or #HT herbicide tolerant crops. Toxins are poisons. GMOs=Poison Producing Plants. Poisons have no place in food."



Bt is a natural protein that organic farmers have been spraying on their crops for more than a century. Engineered into cotton, soy, eggplant (in Bangladesh) and other crops, it has reduced the spraying of synthetic chemicals by as much as 95%. Bt proteins are toxic to some clearly identified classes of insects (plant pests), but not to fish, birds, mammals. See also the scientific papers quoted in response to her delusional Twitter post, in particular, the classic study by Ames et al. which clarifies that many plants naturally produce substances to defend themselves from pests and 99.99% of pesticidal substances in food are natural – and harmless to humans.

3. Shiva shows a tendency to nonsense. See her absurd statement regarding the alleged risks of the Genetic Use Restriction technology (GURT), which could provide the means to either restrict the use of a plant variety or the expression of a trait by turning a genetic switch on or off. In her book *Stolen Harvest* (p. 82-83) she wrote: "the possibility that the Terminator may spread to surrounding food crops or to the natural environment MUST be taken seriously. The gradual spread of sterility in seeding plants would result in a global catastrophe that could eventually wipe out higher life forms, including humans, from the planet." She has repeatedly used the same words in other documents in her websites.

Against any logic, she claims that (second generation) sterile seeds – which of course cannot germinate – can spread sterility and wreak havoc all over the world.

4. Shiva is not interested in civil discourse, consistently resorting to attacks and hyperbole. One of many examples is this tweet: "Saying farmers should be free to grow GMOs which can contaminate organic farms is like saying rapists should have freedom to rape".



This is a grotesque insult to millions of honest workers who use modern technologies to farm more sustainably and efficiently.

5. Shiva rejects technologies which help farmers (mostly women and children) to alleviate the painful, back-breaking labour of hand-weeding, which she glorified in a paper that was posted for years on her website. Note that she removed it recently after universal criticism but it's preserved <a href="here">here</a>: "Indian women selectively do weeding by hand, hereby preserving our biodiversity." Photo and caption at p. 21.

This is preposterous: as this recent peer-reviewed article (one of hundreds) documents, weeding releases greenhouse gases while no-till farming limits climate change disruptions. And her "biodiversity" reference is misleading: any act of weeding, by hand, machine or using herbicides is exactly aimed at eliminating detrimental plant biodiversity, which, in a field or garden, stifles crops. We must underline that herbicides have resulted in dramatic increases in yield per acre, and chemical toxicity of chemicals used in agriculture has been going down for 30 years.

6. Shiva invents misleading and deceitful connections between useful agricultural tools and war, demonizing the use of fertilizers. She has claimed: "Fertilizer should never have been allowed in agriculture. I think it's time to ban it. It's a weapon of mass destruction. Its use is like war, because it came from war." (Quoted in various articles linked below.)

Rather, data show that fertilizers have resulted in a dramatic global increase in production since they were widely introduced in the 1940s/50s after millennia of using inefficient farming techniques. They contributed to the

Green Revolution which has saved billions, including turning her India from a global food security disaster into an exporter of many crops.

The policies advocated by Shiva have been unmasked by recent events as not only wrong but detrimental. Shiva was a consultant to the Sri Lankan government which in 2021 banned synthetic chemicals including fertilizers at her urging. As this article in The New York Times: Sri Lanka's Plunge Into Organic Farming Brings Disaster (and dozens of similar reports) explains, Shiva helped crash the entire Sri Lankan economy. Quoting from a Foreign Policy article:

As Sri Lankan crop yields have plummeted, exactly as most mainstream agricultural experts predicted they would, the fertilizer ban's leading advocates have gone silent. Vandana Shiva, an Indian activist and ostensible face of anti-modern agrarianism in the global south, was a booster of the ban but turned mute as the ban's cruel consequences became clear.

In sum, Shiva's worldview and policy recommendations have been shown to be more than just fantastical; they are harmful.

We are confident that our reasoned remarks will be seen by the addressees of this letter, by their colleagues and students as constructive criticism: it is critical that educational institutions expose their students and the public to balanced, science-based perspectives, rather than outlandish, harmful and injurious claims.

Unfortunately, none of us will be able to attend the event to challenge Dr. Shiva in person. We would greatly value a point-by-point response by an appropriate person at the university to the matters we raise as evidence-based discourse, refusing unaddressed propaganda.

We hope that in honouring a rational debate on issues of global importance, and in the spirit of liberal engagement, you will make this letter available in written form to everyone in the audience who attends the event and diffuse it through the university website and/or newsletter.

Here are links to a variety of articles from across the ideological spectrum that present reasoned criticism of Shiva's untenable stances:

- Seeds of Doubt | New Yorker
- Vandana Shiva, Anti-GMO Celebrity: 'Eco Goddess' Or Dangerous Fabulist? | Forbes
- · Activism and the gift of delusion | Hindustan Times
- · Why Vandana Shiva is so right and yet so wrong | Grist
- · <u>Fact-checking anti-GMO activist Vandana Shiva's 'Poison-Free, Fossil-Free' food lecture</u> | Prof. Alison Van Eenennaam
- · Vandana Shiva is confusing ideology for science and getting rational people to believe her | Scroll
- · <u>Vandana Shiva: 'Rock Star' of GMO protest movement has history of opposing Green Revolution and agricultural technological innovation | Genetic Literacy Project</u>
- · The GMO-Suicide Myth | Issues in Science and Technology
- · Vandana Shiva Compares GMOs to Rape | Discover Magazine
- Lies, Lies And More Lies | Swarjya
- · Vandana Shiva | RationalWiki
- · Germination of Outrage: How Vandana Shiva Fabricates Conspiracy Theories | Professor David Zaruk
- · Vandana Shiva's Myth Busted: Monsanto Didn't Cause Farmer Suicides in India | American Council on Science and Health
- · In GMO debate, Vandana Shiva has chosen fear-mongering and denialism | Scroll
- · Who is Vandana Shiva and why is she saying such awful things about GMOs? | Genetic Literacy Project
- Fact-checking anti-GMO activist Vandana Shiva's 'Poison-Free, Fossil-Free' food lecture | Genetic Literacy Project
- · 'Social Justice Warrior' Vandana Shiva Is A Poor Advocate for the Poor | American Council on Science and Health

- · <u>Glyphosate causes kidney disease? Debunking anti-GMO activist Vandana Shiva's herbicide junk science | Prof.</u> Alison Van Eenennaam
- · Capitalising on Corona Vandana Shiva #1 | Myles Power

Sincerely yours.

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