

# Amazon Gets Fresh, Bayer Loves Basmati: Toxic Influences in Indian Agriculture

By [Global Research News](#)

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*The citizens of India have a problem. In what the media like to call 'the world's biggest democracy', there is a serious, proven conflict of interest among officials in the areas of science, agriculture and agricultural research that results in privileging the needs of powerful private interests ahead of farmers and ordinary people.*

This has been a longstanding concern. In 2013, for instance, prominent campaigner and environmentalist [Aruna Rodrigues](#) said:

“The Ministry of Agriculture has handed Monsanto and the industry access to our agri-research public institutions, placing them in a position to seriously influence agri-policy in India. You cannot have a conflict of interest larger or more alarming than this one.”

In 2020, Kavitha Kuruganti (Alliance for Sustainable and Holistic Agriculture) [stated that](#) the Genetic Engineering Appraisal Committee had acted more like a servant for Monsanto — there is an ongoing revolving door between crop developers (even patent holders) and regulators, with developers-cum-lobbyists sitting on regulatory bodies.

However, the capture of public policymaking space by the private sector is set to accelerate due to a recent spate of memorandums of understanding between state institutions and influential private corporations involved in agriculture and agricultural services, including Bayer and Amazon.

## Corporate Capture

As part of a Memorandum of Understanding (MoU) between the [Indian Council of Agricultural Research \(ICAR\) and Amazon](#) (June 2023), farmers will produce for Amazon Fresh stores in India as part of a 'farm to fork' supply chain. It will see “critical inputs” in agriculture and “season-based crop plans” in collaboration with Amazon based on “technologies, capacity building and transfer of new knowledge.”



[Source](#)

This corporate jargon ties in with the much-publicised notion of 'data-driven agriculture' centred on cloud-based data information services (which Amazon also offers). In this model, data is to be accessed and controlled by corporates and the farmer will be told how much production is expected, how much rain is anticipated, what type of soil quality there is, what must be produced and what type of genetically engineered seeds and inputs they must purchase and from whom.

This has been described as the [recolonisation of Indian agriculture](#), which will eventually involve a handful of data owners (Microsoft, Amazon, Alphabet etc.), input suppliers (Bayer, Corteva, Syngenta, Cargill etc.) and retail concerns (Amazon and Walmart-Flipkart — both firms already control 60% of India's e-commerce market) at the commanding heights of the agrifood economy, determining the nature of agriculture and peddling industrial food. Farmers who remain in this AI-driven system (a stated aim is farmerless farms) will be reduced to exploitable labour at the mercy of global conglomerates.

This is part of a broader strategy to shift hundreds of millions out of agriculture, ensure India's food dependence on global finance and foreign corporations and eradicate any semblance of food democracy (or national sovereignty).[1]

In addition to the MoU with Amazon, an MoU was signed between the ICAR and Bayer in September 2023. Bayer (it bought Monsanto in 2018), which profits from various [environmentally harmful](#) and [disease-causing](#) chemicals like glyphosate, signed the MoU to help “develop resource-efficient, climate-resilient solutions for crops, varieties, crop protection, weed and mechanization”, according to the ICAR website.

The ICAR is responsible for co-ordinating agricultural education and research in India, and Bayer seems likely to exploit the ICAR's vast infrastructure and networks to pursue its own commercial plans, including boosting sales of toxic proprietary products.

But that's not all. According to the non-profit GRAIN in its article '[The corporate agenda behind carbon farming](#)', Bayer is gaining increasing control over farmers in various countries, dictating exactly how they farm and what inputs they use through its 'Carbon Program'.

GRAIN says:

“You can see in the evolution of Bayer's programmes that, for corporations, carbon farming is all about increasing their control within the food system. It's certainly [not about sequestering carbon](#).”

Given the seriousness of what is laid out by GRAIN in its article, India's citizens and farmers should take heed, especially as the ICAR website states that a focus of the MoU with Bayer will be on developing carbon credit markets.

In a letter (14 July 2024) to Rabindra Padaria, principal scientist at the Indian Agricultural Research Institute (IARI), and Himanshu Pathak, director-general of the ICAR, Aruna Rodrigues says:[2]

“Inking in ICAR's formal partnership with Bayer (Monsanto) quite simply confirms straightforwardly that the ICAR protects its interest, which is the same as those of Bayer-Monsanto, large chemical/herbicide corporates... the ICAR has ditched its mandate to Indian farmers and farming, which is to promote farmer interests as a priority in an unbiased and objective assessment of what is right and good for Indian farming and food... “

A separate 'citizen letter' (20 July 2024) has also been sent to Pathak on the various MoUs that the Indian government has signed with influential private corporations.[3] Hundreds of

scientists, farmer leaders, farmers and ordinary citizens have signed the letter.

It states:

“Bayer is a company notorious for its anti-people, anti-nature business products and operations in itself and, furthermore, after its takeover of Monsanto. Its deadly poisons have violated basic human rights of peoples across the world, and it is a company that has always prioritised profits over people and planet.”

It goes on to say that it is not clear what the ICAR will learn from Bayer that the well-paid public sector scientists of the institution cannot develop themselves. The letter says entities that have been responsible for causing an economic and environmental crisis in Indian agriculture are being partnered by ICAR for so-called solutions when these entities are only interested in their profits and not sustainability (or any other nomenclature they use).

The letter poses some key questions such as: Where was the democratic debate on carbon credit markets? How is the ICAR ensuring that the farmers get the best rather than biased advice that boosts the further rollout of proprietary products? Is there a system in place for the ICAR to develop research and education agendas from the farmers it is supposed to serve as opposed to being led by the whims and business ideas of corporations?

These are fundamental questions given that agriculture is a state subject as per India’s constitution. It is all the more concerning given that the authors of the citizen letter note that copies of the MoUs are not being shared proactively in the public domain by the ICAR.

The letter asks that the ICAR suspends the signed MoUs, shares all details in the public domain and desists from signing any more such MoUs without necessary public debate.

However, on 19 July, there were reports that the ICAR had signed another MoU, this time with Syngenta for promoting climate resilient agriculture and training programmes. In response, the authors of the letter state that the ICAR has (again) partnered with a corporation that has a track record of anti-nature and anti-people activities, selling toxic products like paraquat, class action suits against its corn seeds and anti-competitive behaviour.

## **Mutagenic HT Rice**

It is becoming clear who the ICAR actually serves. Let us return to Aruna Rodrigues and her letter to Rabindra Padaria (IARI) and Himanshu Pathak (ICAR) for additional insight.

Rodrigues’ letter focuses on the commercial cultivation of basmati rice varieties tolerant to imazethapyr-based, non-selective herbicides. These chemicals can be liberally sprayed on herbicide tolerant (HT) crops because the crops have been manipulated to withstand the toxic impacts of spraying.

The HT varieties of rice have undergone some form of mutagenesis rather than genetic engineering. Mutagenesis has traditionally involved subjecting plant cells to chemical or physical agents (e.g. radiation) that cause mutations to the DNA in the hope that a resulting mutation may produce a desirable effect in the plant. This kind of mutation breeding has been used for decades but only affects a [minority](#) of the plants on the market. Industry [watchdog GMWatch](#) says this risky technology (mutagenesis breeding) in the past managed to escape regulation.

So, this HT crop by the mutagenesis route is not defined as 'genetic engineering' (the method usually used to create HT crops) and therefore falls outside the purview of current GM regulations.

Although, the Supreme Court-appointed Technical Expert Committee (TEC) bars HT crops (a) for being an HT crop and (b) on account of contamination of crops in a centre of genetic diversity, it has been a long-standing aim of biotech companies like Bayer (Monsanto) to get HT crops cultivated in India.

Rodrigues asks:

"Is it a deliberate decision of the ICAR to use the mutagenesis route to produce HT rice varieties (tolerant to imazethapyr) with the explicit objective to bypass the formal regulation of GE crops/GMOs?"

Rodrigues accuses the ICAR of effectively ditching its mandate to Indian farmers, many of whom regard organic farming as their competitive advantage. This step is also a potential threat to India's export markets, which are based on organic standards, along with the necessary co-surety that India's foods and farms are not contaminated by herbicides, a consequence of using HT crops.

By adding a trait for herbicide tolerance, the ICAR is informed:

"ICAR's action directly impacts this vital issue of contaminating our germ plasm in rice and contravenes a Supreme Court Order of "No Contamination". Furthermore, our export markets for basmati are in excess of US \$5 billion in 2023-24. Your action will also directly impact India's exports and thereby, impact farmer export potential, incomes and income opportunities that premium prices provide."

Moreover, Rodrigues asserts that the entire mutagenesis process for HT rice must be elaborated, especially when the mutant variety is for the purpose of human consumption. The ICAR is duty-bound to provide, for example, whether a physical or a chemical mutagen was used, the range of doses used and the toxicity for the said material, the herbicide(s) used to test the HT of the basmati rice being used, the concentrations of the herbicides used and the genetic mechanism by which HT rice through mutagenesis has a resistant gene to imazethapyr.

While the issue of intellectual property rights for the HT rice varieties using mutagenesis is unclear, the ICAR and IARI have executed a technology transfer agreement of the HT trait for commercial cultivation.

## **A Failed Technology**

In her letter, Rodrigues states that, based on empirical evidence of 35 years of HT crops in the US and Argentina, HT crops are a failed technology: it spawns super weeds, increased herbicide use and no added performance yield. Moreover, for India, HT crops are a perverse use of technology, whether genetic engineering or through mutagenesis, that risks small and marginal farmers' crops and herbs and plants used in many Ayurvedic medicines because of herbicide drift. It will also uniquely impact the employment of women in weeding.

She goes on to state that in the US overall herbicide use has increased more than tenfold

since the introduction of HT Crops (1992-2012 figure). In addition, HT crops are designed for monocultures and completely unsuited to Indian small-holder, multi-crop farming: anything not HT will be destroyed, the resistant crop stands, but everything else dies, including non-target organisms.

The herbicides used with HT crops are also a major human health issue. There is a strong link between glyphosate and non-Hodgkin's lymphoma. In relation to this, there are more than 100,000 lawsuits winding their way through US Courts. Glyphosate (used in Bayer's Roundup herbicide) is also an endocrine disruptor and is linked to birth defects. Rodrigues notes that Monsanto and the US Environmental Protection Agency had both known for over 40 years that glyphosate and its formulations cause cancer.

Other herbicides used by Bayer include glufosinate (used in its Liberty herbicide), which is acknowledged as more toxic than glyphosate and, like it, is a systemic, broad spectrum, non-selective herbicide. It is a neurotoxin that can cause nerve damage and birth defects and is damaging to most plants that come into contact with it.

Glufosinate is banned in Europe and not permitted in India. It has been implicated in brain developmental abnormalities in animal studies and is very persistent in the environment, so it will certainly contaminate water supplies in addition to food where it will be absorbed.

Imazethapyr (contained in Bayer's Aduel herbicide) is also a systemic broad-spectrum herbicide and is banned in some countries and not approved for use in the EU.

Prof. Jack Heinemann (University of Canterbury in New Zealand) adds that the likes of imazethapyr must be tested for their ability to cause bacterial antibiotic resistance. An important concern given that India's population has some of the highest levels of antibiotic resistance in the world. Any spread of HT crops would put people at severe risk of resistance and disease.

Despite these environmental and health concerns, the herbicide market in India is projected to grow by [around 54%](#) in the next five years, from USD 361.85 million in 2024 to USD 558.17 million by 2029.

In her letter, Rodrigues concludes:

“In view of the above evidence of serious irreversible harm to health, food and agriculture across several dimensions and contravention of the PP (Precautionary Principle), it is a required scientific response for the ICAR to immediately withdraw HT rice varieties and desist from introducing any HT crop through mutagenesis.”

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Notes

1. For further insight into this, see Food, Dependency and Dispossession: Resisting the New World Order

by C Todhunter on [Globalresearch.ca](https://Globalresearch.ca) or [Academia.edu](https://Academia.edu).

2. [ICAR Introduces HT Rice Varieties by the Mutagenesis Process Tolerant to Imazethapyr](#), letter to the Indian Council for Agricultural Research and the Indian Agricultural Research Institute, A Rodrigues, 14 July 2024.

3. [Citizens' letter \(incl. farmer leaders and agri scientists\) to ICAR against multiple recent MoUs with agri-corporations – ASHA Kisan Swaraj](#), 20 July 2024.

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