



On 10 March 2021, Navdanya International organised a webinar - GMOs are a failed technology, The Future is GMO-Free.

As part of its [Gates to A Global Empire campaign](#), this session brought together **Dr. Vandana Shiva**, President of Navdanya International; **Farida Akhter**, founding Executive Director of [UBINIG](#) in Bangladesh; **Chito Medina** founding member of [MASIPAG](#) in the Philippines; **Adelita San Vicente**, Director General of the Primary Sector and Natural Resources of [SEMARNAT](#), Mexico; and **Jonathan Latham**, molecular biologist, and former genetic engineer, now editor of [Independent Science News](#). This panel of civil society leaders and experts lent their perspectives their attempted impositions from all over the world and the struggles and victories against GMOs and the Industrial Agricultural System they are a part of. Referring to the way old and new GMOs are being pushed, Vandana Shiva explains, *"We have a convergence of big tech, big biotech, big ag, big pharma, and big media. The rush to push GMOs is an agenda to go towards deregulation and patenting. What we are living through is an attempt to destroy knowledge and biodiversity irreversibly."*



Link to Video: <https://youtu.be/p-c33wZGs74>

Over the last decades, this has resulted in the **aggressive push for the adoption of failed GMOs**, including Golden Rice, and BT Brinjal (Eggplant). But despite the known failures, and the negative health and environmental effects of these GMOs, **the industrial agriculture lobby has now started to push for the second generation of GMOs** or New Breeding Techniques (NBTs), including gene editing. Both of which just stand as a marketing term for a variety of **risky new techniques of genetic manipulation**. These impositions are usually [funded and pushed](#) by the **private market interests** of philanthrocapitalists, most principally the Bill and Melinda Gates Foundation.

The online conference was moderated by **Ruchi Shroff**, Director of Navdanya International. She explains that over the last decades, GMO crops were imposed in countries all over the world, advertised as a solution to food insecurity and the malnutrition crisis. *"We have been repeatedly told that genetically engineered crops **could save the world by increasing yields and producing more food, by controlling pests, by providing resilience to climate change. But none of the miracles promised by these technologies have actually proven to be true.**"* The use of these GMOs has brought more harm than good, contributing to a series of exponential environmental degradations while marginalizing and destroying traditional farmer knowledge and biodiversity. *"GMOs are part of an industrial agricultural system that is destroying the planet, depleting our water resources, and increasing greenhouse gases. Farmers and communities are losing access to the food systems they had sustained throughout time"*. For decades now, **citizen and farmer-led movements** from all around the world [have been pushing governments](#) to **strictly regulate or ban GMOs**. But despite the repeated efforts of international institutions, corporations, research centres, and governments to impose these technologies, oppositions in Italy, Peru, Mexico, the Philippines, Bangladesh or India **show a possible path to resistance**.

**Chito Medina**, a founding member of MASIPAG (Farmers-Scientists Partnership For Development), and former National Coordinator of the network. Associate Professor of environmental science in a leading university in the Philippines, tells us about the **corporate push for GMOs and specifically golden rice in the Philippines**. The introduction of golden rice began 30 years ago, in 1991, to add vitamin A (through beta-carotene) to people's diets and fight the malnutrition crisis. In 2002, research moved to the Philippines and Bangladesh with the **International Rice Research Institute (IRRI)**, which **benefited from nearly \$30 million of donations from the Bill and Melinda Gates Foundation**. After several versions were developed to improve its composition, golden rice was designed as safe in December 2019 by the Philippine Bureau of Plant Industry, and it still has to be approved for commercial sale.

However, **the claim that golden rice will cure vitamin A deficiency remains unproven** to this day. In 2018, the FDA stated that golden rice offers no nutritional benefits and [does not provide sufficient vitamin A levels to warrant a health claim](#). Besides, many other **biodiverse food sources** have a much **higher level of beta-carotene than golden rice**- from moringa to jute mallow, to sweet potato. Carrots, for instance, contain on average 24+ times more beta-carotene than golden rice. Genetically modified rice is a distraction from the root causes of poverty and real, **biodiversity-based methods of improving nutrition**. Chito Medina tells us that, *"the biotech companies should be charged with a crime against humanity for contamination and erosion of biodiversity, for turning rice, which is a staple food for the majority of the global population, into potentially toxic food. The biotech companies are also selling the seeds and the food without adequate safety testing. They are committing crimes against humanity, by sabotaging agriculture and sabotaging nature."* The real reason golden rice is pushed so hard is to soften resistance against GMOs and lead to the control of seed, agriculture, and food by

Biotech companies. Consumers and local groups have mobilized, and they need to take legal action [to oppose the release and commercialization](#) of golden rice in the Philippines.

**Farida Akhter**, founding Executive Director of UBINIG, Bangladesh, tells us about the **failures of Bt Brinjal** and the corporate lies behind its imposition. Bt brinjal is a genetically modified brinjal (or eggplant) created to be resistant to insects. After the [failure to impose it in India in 2009](#), the testing ground for Bt Brinjal became Bangladesh, where it was approved for commercial release in 2013. Despite protests from international scientists and environmentalists, the process to approve Bt Brinjal was **unusually quick**, which represented an *"unprecedented health hazard to the population of Bangladesh because **there had not been adequate safety testing for human consumption**"*. Scientists warned that Bt toxins were thousands of times higher than any other time previously in the short history of GM technology. Farmers were given Bt brinjal seeds and were told they would not require any pesticides and would increase yield and income. In reality, **they were given false hope, demonstrating a blatant disregard for local knowledge and causing huge losses for farmers** who earned more with traditional, local varieties. Despite this, the **Cornell Alliance for Science**, which was launched in 2014 with a \$5,6 million grant from the Bill and Melinda Gates Foundation, shares a *"completely false story"* on Bt brinjal. Through a program called Farming Future Bangladesh, **they are continually filling the media with false information** on Bt brinjal farmers and their so-called success stories. Farmers are even being **pressured not to talk to journalists or researchers** except those with the permissions of Department of Agriculture officials. The fight must continue to reveal the true impacts of Bt Brinjal and, as Farida Akhter says, *"Bangladesh must be GMO-free, we should all work towards a GMO-free country"*.

**Jonathan Latham**, molecular biologist, and former genetic engineer. He now edits the website Independent Science News, which goes into the science of **gene editing**, its genetic damages, and its off-target effects. He tells us that *"gene editing should be understood as an umbrella term for a basket of techniques"*. Most methods of gene editing involve the use of an enzyme that cuts DNA, which is inserted into living cells (animal, plant, or other). Each technique has different consequences, and *"virtually every laboratory or company uses these techniques differently, and these differences likely affect the risk profile of the technique in terms of the genetic damage caused to the genome"*. The issue is that **not all companies are transparent** regarding their methods, which makes risk assessment even more complicated and uncertain. *"So, when people talk about rolling out gene editing techniques for specialty crops, or hard to engineer crops, they are venturing far into uncharted realms when it comes to biosafety."*

According to him, **the term gene 'editing' is a marketing term** that conceals the reality of the methods that are used. What happens in so-called gene editing methods like [CRISPR](#) is not an edit of the DNA, it is a cut. The genome becomes fragmented, *"leading to either large losses of DNA or to complex rearrangements of chromosomes which are also highly problematic events for a cell."* And then there's the whole issue of, *"how a researcher actually makes the edited crop in the first place"*. Latham explains that to do that, you have to introduce a lot of foreign DNA into the cells, which he calls *"shooting DNA"*. Not only there can potentially be risks with the source of the DNA, but also **the editing process often requires cells to go through thousands of challenging mutations** to get them into a fit state to receive that DNA.

The gene editing machinery can also **mistakenly cut wrong, off-target parts of the genome**, leading to potentially **unwanted or dangerous results**. This is what happened when a company that breeds hornless cows [inadvertently introduced an antibiotic resistance into these animals](#). There is a clear

and steady emergence of major, *"repulsive genetic damage and inadvertently introduced DNA sequences associated with gene editing"*. This could be really harmful, especially because *"the big companies that really are behind all this have the lobbying power to make the government's change regulations and to deregulate GMOs."*

**Adelita San Vicente**, Director General of the Primary Sector and Natural Resources of SEMARNAT - Mexico tells us about the **resistance against the imposition of genetically modified corn in Mexico**, the crop's centre of origin. The corn plant is central to Latin American culture and has undergone 8000 years of progress and improvements. It is a highly adaptable crop that can be grown in different temperatures, climates, altitudes, and soils, and can be cultivated in extreme conditions. *"This makes it the ideal crop for the different changes coming with climate change."* Corn is the most produced crop in terms of volume and is also one of the most commonly genetically modified ones. Considering all of these different characteristics, corn has become a grain in dispute. To stop the expansion of GMO maize in Mexico, along with the potential health hazards and contamination damage to native maize varieties, **300 organizations gathered to organize a campaign called 'Sin Maíz No Hay País'** (Without Maize There's No Country). They took the tools of the justice system into their own hands and presented a **class action lawsuit to defend the biodiversity of maize**. A judge listened to their plea and ruled in 2013 to [stop any activity](#) regarding approval and use of genetically modified corn in Mexico. In 2020, a presidential decree was published, **prohibiting the importation and the use of GM maize as well as glyphosate**. The challenge is now to put that measure into practice and stop the expansion of industrial agriculture, especially *"since we're facing a lot of opposition from very powerful actors in the industrial agriculture industry in the country"*. In order to accomplish this goal, the importance of **free trade agreements between the United States, Canada, and Mexico also needs to be addressed**. 30% of the corn consumed in Mexico is imported. The current Mexican government is *"actively trying to change this amount of influence in [their] agricultural policy. And in particular, trying to shift the emphasis away from large corporations to instead start to support the small farmers, especially so those farmers can stop having to emigrate to the United States in order to have a livelihood. This is a great challenge that we face from now on until 2024. And we're hopeful that we can return to the state that Mexico was prior to these free trade agreements, to being fully self-sufficient and fully food sovereign"*.

According to **Vandana Shiva**, founder of [Navdanya](#) Research Foundation for Science, Technology and Ecology (India) and President of Navdanya International, **we are not dealing with science anymore**. Science is what tells us that GMOs like golden rice are dangerous and unhealthy. What we are dealing with is a **"propaganda machine, running a system that claims to be science"**. More than a propaganda machine, there is a reductionist mindset, a *"monoculture mindset"*, based on determinism, that treats living systems as machines that are put together externally by genetic engineers. It is a mentality of war, a **paradigm that continues violence** against nature and human beings, pushing GMOs through deregulation and patenting.

Despite this, Dr. Shiva ends the webinar with a hopeful note: *"Look at the world around you. Yes, the private companies are there. But most seeds are GMO-free. Seed banks are growing. We shouldn't let the billionaires get away with only fake food, only golden rice, only Bt eggplant, only fake knowledge, fake democracy, fake this, and fake that. It's really about truth versus fakeness. And **we work with the belief that because we are working in the long run, we are working in alignment with biodiversity, life on Earth, and the rights of all human beings**. The truth wins in the long run. In the short run, these*

rascals look powerful. But they work with empty power because pulling power is not true power. Destructive power is not true power. **Nonviolent creative solidarity, cooperation, mutuality: that's our strength**. That's the strength of nature. Let's build on it. Let's have a dream. That ten years from now, these games will be over. We've got to save real seed, real food, real democracy."

The President of Navdanya International closed the online conference with a special message [for the youth](#): "You are never too late to do the right action. The more urgent things get, the more important it is to act on it. If we are willing to allow our bodies to be messed up even more by genetically modified and fake food, you can be very sure this will be a very sick planet. [...] I believe **as human beings we have a duty to protect our health, stay free and not allow food sovereignty and democracy to be hijacked**. Our possibilities are limitless of where you begin and where you learn. There's no perfect age. There's no perfect person, **each of us owes it to the earth, owes it to our ancestors, owes it to ourselves, and owes it to future generations** to not let a gang of five corporations destroy our world. We have to do more for biodiversity and our beautiful Earth."

Navdanya International

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