

Speaker: Vandana Shiva

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Thank you. Thank you, Francesca. And yes, we have become friends, otherwise, I wouldn't be staying up so late. You know it is past 10 for me and I've just done a long journey to get back home today. Also, I think it's a particular privilege to watch and hear the board elections of another organisation. It's something I only do within my own organization. So congratulations to all the people who have been elected to the board, and of course thank you to the wonderful community that does this interfaith work on vital issues of our time.

I was asked by Francesca to talk about industrial farming, about energy systems and about weak governance.

As Francesca mentioned, you know, my discipline of choice was physics and quantum theory. I did a PhD in non-locality and hiddenvariables, but it was 1984 that forced me literally to look at agriculture because that year a pesticide plant leaked in the city of Bhopal, and in that summer, the place where I did my embassy honours in physics was very prosperous, very peaceful. The richest part of India had erupted in violence, about 30,000 people died in that violence and of course, I was outraged, but I wanted to find out what is driving such violence. So I went into looking at what it is, and did a book on the Green Revolution and I know the Green Revolution is being pushed on Africa very much like it was pushed on India, but you know, Punjab was a very water abundant plant, and it has been deserted. Africa, such a large continent will be totally deserted if the chemical revolution, which is industrial agriculture is brought in.

There is a huge nitrogen debate taking place right now, but the real nitrogen debate should be around this image of fertilizers for Africa. This is Mr Gates saying "I'm standing in front of a fertilizer plant in Dar es Salaam, and I'm happier than I look". Now It takes something to be made happy by fertilizers, which are basically, fossil fuels processed at very high temperature to fix atmospheric nitrogen.

Originally, this technology was used to make explosives, which is why so many bombs are fertiliser bombs. And then after the war, it became agrichemicals and the synthetic fertilizers are weapons of war. Pesticides were used to kill people in the concentration camps, and I learned this while doing the research on the violence of the green revolution. And I made a commitment when I finished that study that I would dedicate my life to non-violence farming, and that's what farming should be, and farming has been. Agriculture means the care of the land, and it was considered in all other societies, the highest vocation.

Today, the farmer's are in deep crisis. But what farmers produce is nourishment food. Good farming, produce food for the soil, food for the animals, food for human beings, and it's only in very recent time that on the one hand, the process of growing food has been put out of the cycles of renewal of life, the carbon cycle, the nitrogen cycle, the water cycle, and all of them have become input output systems based on huge amounts of fossil fuels it is particularly perverse.

Nature herself is the source of energy and good food is energy, it provides energy. Food is the first energy, one of the most important quantum physicists of our times Erwin Schrödinger was very puzzled about the uniqueness of living systems. So he started to dedicate his life to understanding what life is, and he said that life is the reversal of entropy. Now all mechanical systems create wasted energy, wasted pollution, and they produce entropy, which is waste. Plants, living systems, reverse entropy, and create negative entropy. They take disorder and turn it into order, and I've just been gifted, a beautiful book, which we are reprinting for an exhibition we are going to be holding in on the 1st of October to celebrate Gandhi's birth anniversary (2nd October) that down to the level of the cellular patterns, chemical food is totally scrambled in the crystal imagery through crystallography and organic food has beautiful plaque patterns down to that level, there's order and there's disorder, and disorder is harmony, disorder is an ecological catastrophe.

As a physicist, I know that there are many forms of energy and fossil energy is only recent, just two hundred years old, the first hundred years of coal largely to expand British imperialism and a hundred years ago with standard oil and Rockefeller. And Rockefeller was the one who drove the green revolution to sell his oil, to make more synthetic fertilizers.

And the algorithm that allowed for the green revolution in Africa was jointly launched by Rockefeller foundation and Gates foundation. You don't hear so much about the Rockefeller foundation, but you should look out for them because they have just created a whole new legal framework just before the Glasgow summit, a legal framework for corporations to be able to own nature. These are called Natural Asset Companies (NACs).

NACs were started by the New York stock exchange and Rockefeller Foundation, They are hoping that they will drive our countries into deeper and deeper debt. And through the debt, then say here's credit, but the credit will be then used to transfer ownership over natural resources over land, over ecosystems, over the biodiversity functions of biodiversity, the ability of a leaf to convert carbon dioxide into carbohydrates, the molecule of life and oxygen, the breath of life.

So we are at a very important threshold and your community being a multi-faith community has so much to contribute. Farming is not new, you know. Australian Aboriginal people have been farming for 60,000 years without hurting the earth. Indian farming, Chinese farming. There's a book written by American agricultural scientists. He called us farmers of 40 centuries, and anything that's done right can last that long, it's only industrial agriculture based on fossil fuels and chemicals made from fossil fuels that has destroyed ecosystems within a decade. But Punjab was destroyed in the decade and globally the most significant ecological catastrophes are related to the industrial food system, but there's a very sad phenomenon of a colonizing mind that does not see anything outside its own scope.

For example, yes, we know industrial agriculture is responsible for 50% of the greenhouse gases that are driving climate change. I've got a book on this called *Soil Not Oil*. 75% of the desertification and destruction of soil and water is related to an industrial farming system, and my book, *Who really feeds the world?*, has all the data.

This degradation and destruction of biodiversity, when the plant genetic resources conference took place under the FAO in 1995, the governments had reported that because of industrial agriculture, 75% of the biodiversity and agriculture had gone. This was 1995, today it's more than 90% disappearance. We have stopped eating 10,000 species of crops with many species having lots of diverse rice in India, the peasants evolved 200,000 varieties.

The Mexicans evolved 150,000 varieties of rice. This brilliance of science, but it's a science that works according to the laws of life, recognising that every living being from a plant to an animal, to an insect, to an earthworm are sent to beings and they must be taken care of. They cannot be pushed to extermination.

So as Albert Howard, who was sent to India in 1905 as an Imperial botanist to improve agriculture, he was a good scientist. He arrived and found the souls of fertile and found lots of insects, no pests. He said, "I'm going to make the peasants and the best of my professors", he wrote a book called *The Agricultural Testament*, which is called The Bible of modern farming or modern organic farming, do read it because it is the other system that we don't, we, we don't need AGRA.

This well-worked out system of thousands of years and how it says all the great agriculture systems that have survived have made it their business, never to deplete the earth of its fertility without at the same time beginning the process of restoration, this is a way, this is regenerative agriculture.

Give it any name you want to give it, natural farming, organic farming, too many contests have been created around words and names. When what we should be looking at is processes and principles. The two processes of all ecological agriculture that are violated by industrial agriculture. Our first biodiversity nature does not work in monocultures and uniformity. Nature never creates uniformity. Every blade of grass is unique, every leaf on a tree is unique, even though every leaf on a particular species has the same pattern, and this is what quantum theory recognises as unfoldment and biological sciences now recognize self-organization, that in the system is built the patterns towards which it will evolve down to the tiniest detail of the shape of a plant, the shape of a leaf, that way it will branch out. And as far as I'm concerned, nature's most sophisticated technology is the green leaf, which can harvest the sunlight. It can convert carbon dioxide and give us food and give us bread, and most people don't realize that the earth is 290 degrees. It should be 98% carbon dioxide, and it's the leaves and the plants and photosynthesis that made this planet livable for humanity.

And our duty is to keep it livable by working according to the earth systems in a few decades, you know, thousands of years, we did not spoil the earth in a few decades because it's only post war that the chemicals started to spread, and in India, it came in the sixties to Africa, it's come to be the green revolution, very recent, but in this very short period, industrial agriculture has displaced diversity created monocultures. Displaced the technologies of care, and replaced it with careless technologies, spraying, poisons, throwing urine, spraying, and glyphosate to kill the plants. You know, when I used to be at the negotiations of the Convention on Biological Diversity, it was unbelievable, the US government used to always sit with Monsanto, and the Monsanto representative got up and said; "Roundup resistant GMOs are so smart, they prevent the weeds from stealing the sunshine"; as if the sun was meant to only shine on the roundup-ready soy patented department center.

We've had an inefficient use of the sunlight, the maximum, our work in Navdanya, and I hope some of you will at some point come. We have an October course, A to Z of living with the earth, return to the earth, where we share everything we learned about the seed living, soil living, food living economies. You can go to the website of Navdanya, at [/navdanyainternational.org](http://navdanyainternational.org) to see the details of the courses we offer. But I realize that it's the maximizing of photosynthesis and maximizing biodiversity, that is true food production. And our research has shown that when you maximize biodiversity, you produce malnutrition per acre.

We don't look at yield per acre yield, merely measure a commodity that left a farm. It doesn't just find out whether the commodity went to turn, be turned into biofuel

to drive a car or two when it went to torture animals in a factory farm. So there's so much debate on the whole issue of animals.

And I want to turn to it, particularly because of your role. Industrial agriculture first turned drops into monocultures, but worse. It separated animals from plants, again, as Albert Howard says, never does nature separate the animal and vegetable worlds. This is a mistake she cannot endure. And of all the areas that modern industrial agriculture has committed, the abandonment of mixed husbandry has been the most fatal mixed husbandry is trees, animals, livestock, and annual crops growing together. They support each other. I've done so much research on how the output of one is the input of the other, and these are permanent cycles of regeneration and renewal. When you grow GM soil in the forest, what you've basically done is omit 20% of the greenhouse gasses, but you've also created the infectious diseases and the new pandemics.

The forests are the homes of indigenous people. Forests are the homes of other relatives of brothers and sisters as they say, StFrancis of Asisi always called other species. The 50%, 20% adds up from turning good food into trash, and because we created such an energy-intensive food system where you use 10 units of energy to produce one unit of bad food, when you can ecologically use one unit of energy to produce 10 units of good food to create abundance and food for all, there needs to be no hunger.

Zero hunger is totally achievable, and now, instead of recognising that factory farming intensive monoculture soil be cultivation, these are the reasons there is pollution. These are the reasons there's meat, and you go past a concentrated animal operation and you get a stink. You go past a free-range cow, the Maasai cows in the Maasai, there's no stink.

I grew up in this place. This is now my office. My mother gifted it to me, but it used to be the cow shit. We used to play with the cows and it never had a stink. The stink is meaning that comes from waste dumps landfills.

Mr. Gates, again, in this book of his, how to deal with the climate catastrophe actually has the unscientific statement. But you know, billionaires decide what science, he can say anything. He basically says, it's the full stomachs of the herbivores, of the cows, of the sheep, of the goats. That is the reason there's meat, so kill them all.

You know, and I'm not joking when I say this, the industry has marked the death of a million sheep in Ireland. These are free range on the grasses. These are not factories, of course, in the Netherlands, there are factories farming, but this was

forced to the cap subsidies farmers didn't choose to put all their animals in concentrated operations. Now they're being told to basically destroy half of the herds.

And when I was talking to Francesca, you know, I was saying our movement now has to really be for the love of all creation. It has to be, for protecting the sheep after all, Jesus wasn't a shepherd, and he loved all this sheep, how can we allow sheep to be killed and called on a false claim, false claim that they're responsible? We know 1% of the rich is leading to 50% of the pollution of the cloud in terms of greenhouse gas. That 1% is now blaming our cows and sheep.

Today is the birth anniversary of Krishna. Just like Christ was a shepherd, Krishna was a cowherd. And his whole life is around cows and milk and butter. So I greeted everyone. So I greet all of you aHappy Janmashtami, today. And let us all speak from our faith to challenge this faith, religion of pseudoscience and violent technologies, because this is now a life and death issue for humanity.

Our cultures did not contribute to species extinction, our cultures did not contribute to climate change, we are the worst victims. So I would like to share with you that every year, since the nineties, when they started to patent seeds, when they started to on these GMOs, we started to celebrate a fortnight of action from 2nd of October, which is Gandhi's birth anniversary. And we want to thank South Africa for making Mohi the Mahama because that's where he practiced Sepegre. His first was in South Africa against racism, and from October, we will celebrate all the way to 16th October, which is World Food Day, reclaiming [our bread and our freedom](#). And now with the challenges going as intense as they are, our bread has to reclaim a sacrament in all of our cultures in India, we give Catholic the sacrament. Every bread is a sacred sacrament. We must reclaim it in its sanity. And we must derive from the power of sacred food and the power of sacred earth, the power to protect life on earth and our future.

I just want to share with you that October 2nd, as I said, is the day of sepegre started with Gandhi's sepegre in South Africa. Very important, this year, 4th of October is Animal Welfare day. Now this is not a neutral kind of welfare day, It is the feast of St Francis of Sisi, who was a patron of saint animals, and he always called other species "my brothers and my sisters".

I'm very happy that I'll be going to Asisi for the economy of Francisco. You know, there's a whole process that has been started by young people who want to reclaim an economy of care, an economy of living as one earth family. 5th October is Teachers' Day, and for me, nature has been teachers, plants have been teachers, animals have been teachers, earthworms have been teachers, let us widen our

learning to create a future. 7th of October is World Cotton Day. BT cotton has devastated my country as it has devastated so many countries where the world cotton day was created by the south, by the African countries that are cotton growers.

October 15th is Rural Women's Day, and so much of our working in Navdanya is with women because women are the ones who take care of the seed, who grow the food, and most farmers of the world in Africa, in India are women. So let us celebrate the future of food through the knowledge of women, the care of women, and the love of women.

And finally, 16 October, World Food Day should become the date of reclaiming our bread and our freedom, and I know Africa has a very big road to play in this and all the faiths together will be the power.

How can we let 4/5 billionaires (just because they made money)drive the planet through total devastation?

We should reclaim our knowledge, our heads, our hearts, our love, and care and work with our hands, because our world is not a fossil world. Our world is a world of bodily energy.

Thank you.

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