

WHAT EVERY INDIAN SHOULD KNOW ABOUT AGRICULTURE

Seed monopoly, patenting and arm-twisting by corporations in cahoots with government policies are encouraging the agrarian crisis. But encouraging seed sovereignty, ecological agricultural processes and direct distribution could tilt the balance in the farmer's favour.

By Vandana Shiva

Seed saving is an important part of what we call food sovereignty and food democracy. If you don't have your seed, there is no way you can make a choice about what you like to eat. Especially since patenting and genetic engineering are intimately linked together.

Companies aren't doing genetic engineering because they love their profession immensely; they are doing it because otherwise they would not have had the possibility to claim patents on plants. It is the door that has allowed them to establish monopolies on seeds. And starting with genetically engineered seeds, they are now taking patents on non-genetically engineered seeds like basmati.

A handful of companies have bought off the largest vegetable seed companies of the world. And they will not stop at selling us the Bt eggplant. They will first sell us the hybrids and then they will sell us the open pollinated varieties, because what they want is a monopoly.

That's when I started Navdanya to save seeds, realizing that we would have to save seeds if we wanted to say "The right to save the seeds is ours!", because else all we'd be left with is genetically engineered seeds.

The corporations thought this through in the 70s. And they had created groups including an Intellectual Property Committee Worldwide that drew up a law that is now called TRIPS, of the WTO. This law forces countries to have patents on seeds and life forms and has forced India to shift from its 'process patent' rating for medicine and pharmaceuticals into a 'product patented' monopoly.

A company in Texas called Ricetec made 21 claims on the wonderful Basmati from Dehradun. They said: they'd increased the height of the plant (from 2 ft to 3 ft.), invented the size of the grain, invented the aroma of the grain, invented the elongation (because basmati rice doubles after cooking) and even the method of cooking rice! We had to fight that case for four years and had most of the claims struck down - a result of which Indians can still trade in Basmati. Otherwise we would not have been able to trade in Basmati, and over time, wouldn't have been able to grow Basmati either

Patents are given for something that is an invention. It gives the patent holder exclusive rights to exclude anyone else from making, using, selling, distributing, or improving the patented product.

In agriculture, it amounts to farmers not having the right to save seed or exchange seeds. That is treated now as a theft. But most of the knowledge of what plants do exists in the hands of Third World farmers and farmers in India. What they want to do is, steal the knowledge from the original knowledge holder of the seed to prevent them from having access to it. It's a triple level of piracy. You pirate from nature and then you pirate an economic option, and prevent anyone from using or selling their own produce.

Seed monopoly is already starting to have huge impacts, and suicides are the most important statement of that. Vidharbha is the area with the highest rate of suicides: 400,000. It also the area with the highest planting of Bt Cotton: 4 million acres. And this is treated as the success of Bt. Three years ago I did a seed pilgrimage and kept asking the farmers, 'Why did you shift?' And they said, 'What do we shift to? They took away our seeds.'

Governments deliberately take away old seed through a process called 'Seed Replacement.' There's another law called the Seed Act of 2004. This has only one objective: preventing farmers from having their own seed.

'GREEN REVOLUTION IS THE CAUSE OF CONFLICTS'

I did intensive studies when I was writing 'The Violence of the Green Revolution' in the '80s. The soils were dying. The river conflicts - Kaveri, Satlej - have been because of the Green Revolution. If you increase the water usage for procuring yields by 10 times, and there isn't enough water,

the Tamil farmers fight the Karnataka farmers and the Haryana farmers will fight the Punjab farmers. So, in the seeds of the Green Revolution are the seeds of the water wars.

In Delhi we work with schools through a program called the 'Good Food Programme.' In 1994-1995, the obesity rates in the Delhi Schools were seven percent. In 2005, they had jumped to 20 percent and in 2009 it has jumped to 25 percent. Obesity is linked to adult onset diabetes. Kids of seven are getting diabetes; children of ten are having heart attacks. How can we do this to our future generation?

On one hand we have this miraculous 9 percent GDP growth, but on the other there are also the 250 million Indians, who are now the largest number of hungry people in the world! India emerged as the 'Hunger Capital' last year. The last time such large scale hunger took place was in 1942, after the Great Bengal Famine. Today, the largest numbers of hungry people are Indians, and ironically these largest numbers of hungry people in the world are also producers of food.

This has happened because we have shifted our agriculture away from nature's ecological processes and away from the ecological principles of renewing soil fertility. All of which are low input systems, with no external inputs. The Green Revolution on the other hand is based on buying chemicals and buying seeds. Chemicals are what I call ecological narcotics - the more you use them, the more you need to use them. So there is an increase in the amount of use of fertilizers without a correlated increase in the production of food. So the external inputs which are in the form of chemicals and seeds necessarily create debt.

The Green Revolution was also a monoculture of rice and wheat. This was because those were the only two crops that companies had managed to tamper with, to create dwarf varieties that could take more chemicals. They were not high-yielding varieties, they were high-response varieties i.e. if you supply large amounts of water and large amounts of chemicals, you will get a yield. But these dwarf varieties made our organic matter disappear. Nothing was left to return to the soil or to feed farm animals, the result of which is a crisis of energy and soil fertility.

Our Indian agriculture has always been based on two very important principles: One, the integration of animals, trees and annual crops. So if you

look at areas where the Green Revolution has not managed to have an impact, they are full of trees. There were more trees in the farms of Uttar Pradesh in the '50s, than there were in the forests of Uttar Pradesh. And if you go to Kerala, you can't make out the forest from the farm.

The second principle of our ancient knowledge of farming was diversity. You never grow a crop alone; you always grow it in mixtures. And the normal mixing was cereals, pulses, oilseeds - which fix nitrogen and give us protein.

But the Green Revolution could not do that since there the external input was designed only for a single crop. This made the chemical farming and Green Revolution go hand in hand, and in turn caused pulses to be banished.

The tractor too, has become the most important thing. In order to use a tractor over a large area comfortably, one has to get rid of the bunds, the hedgerows and the farm trees. Because of this what we get is miles and miles of barren desertified land kept green through intensive irrigation.

Control of Seed, Trade and Processing.

In my book 'Seed Dictatorship and Food Fascism', the first bit covers the issue of how seed is being controlled through a dictatorship. We must remember that it is a 100 years of Gandhi - all the more reason for us to find ways to be inventive with the idea of Satyagraha! Gandhi told the British 'We won't obey your salt laws as Nature gives it for free and we need it for our survival. We will continue to make salt!' We too need to find ways to say we will continue to grow our seed, and continue to make our food. Because around the world the industry expands its control through three means:

1) Control of Seed

2) Control of Trade

3) Control over Processing.

I was right there when **Lee Kwang Gyu** killed himself at the WTO meeting in Seattle. He killed himself as a leader, not because he was fed up. He killed himself because the governments haven't been noticing the tragedy of the farmers, and maybe they'd wake up to what is happening to the farmers of

the world. He climbed atop the barricade and killed himself. That issue hasn't really moved since then. It's been 10 years since the stopping of Seattle, and then it was Cancun. Hong Kong was as good as a failure.

Our Centre repeatedly says it is the fault of the states, which they claim, are not doing enough. When it comes to signing a WTO treaty or an ASEAN Free Trade agreement which will destroy the spice producers of Karnataka, the Centre says 'Agriculture is our business!' However when it comes to a food crisis, rising food prices and farmer suicides, the Centre says it is the State's business.

Our Indian mills are being hounded for hoarding. A miller traditionally buys when the wheat harvest comes in, and stocks it for the year's supply. But now they are not being allowed to do that. If they have extra sacks, it is considered hoarding. So what is actually happening is that they are being forced to buy monthly from Cargill, at double the price at which they would have got it from the farmers or the Agriculture Produce Marketing Cooperatives and Mandis. So at every step, the government is trying to push the farmers into the hands of Monsanto for seed, into the hands of Cargill, Levers for trade and distribution; both nationally as well as internationally.

Small Scale Farms: The Way Forward

People of this country have yet to rise on two basic issues. First is the issue of farming in agriculture which is our identity. Gandhi called us an 'India of Villages'. Most Indians are still in the villages.

Our small farmers need protection, and that's the reason why I am so passionately involved in building 'Navdanya' as a movement to keep a model alive. It is because all our research is showing that a small farm is more productive than a large farm. There is no bigger myth than the one that says: you need bigger farms to produce more food. As the scale of farming increases, the output decreases – because, food comes from plants. Plants are living. Living systems do better when they have care. Small farms can give more care; large farms can just spray more poison. So for our food security, we definitely need to defend the small farmers.

In 1991, we had a Universal Public Distribution System under which we were spending 2,500 crores for food. The World Bank said this must go because it was too much expenditure. Now, we supply rations (affordable food) to 10% of India. The cost is 50,000 crores. 50,000 crores is enough to run a universal system! Now the difference between a universal system and a targeted system is that if each one of us could walk into a ration shop, the speculators could not charge what they wanted and we would see the 17% inflation that we are seeing in food items today. Like the Rs 100 for dal!

The universal public distribution system is not just an access system; it's the only way to prevent complete catastrophe in the marketplace. The 'Right to Food' should be a universal right, and in my view it should be the universal right to healthy, safe, balanced and nutritious food. But the Right to Food is being turned into a Fig Leaf that is protecting a system that denies people the right to good food. And that is why we have to build broad base movements.

Climate Change and Agriculture

No matter what problem you look at - non-sustainability of farming, climate change, overuse of water; all of it eventually comes down to the use of oil. And an African saying goes "We are now eating oil". If one looks at the virtual oil in food, there is more oil than food. Forty percent of the greenhouse gas emissions today are coming from a system of globalised agriculture, 14 percent directly from methods of farming using Nitrogen fertilizers. This leads to high levels of Nitrogen dioxide, which is 300 times more lethal than carbon dioxide. CO2 in turn, increases with the huge use of fossil fuels, methane with increased use of factory farming methods.

What we are doing is essentially stealing from our own, because our refrigerants are also adding to GHGs. Together they account for 40 percent of the gases, add about 10 percent for the transport of food all over the world and 18 percent for cutting down forests to plant soya bean. The soya lobby today has spread from the US to Brazil, cut down the Amazon. In Argentina there is nothing but soya, and a small farmer can't grow a thing because they kill anything green. It's a serious issue and a deep threat to our future. And that's why we must start reclaiming our food sovereignty.

What we can do

At Navdanya we have started the Good Food Campaign. We don't just

spread awareness, we ask people to get involved, run a chef's programme. We distribute seeds so that they can be the custodians of seeds. We call these, the Trees of Freedom.

We encourage schools to start an edible school yard. It's such good education- you learn biology, geology, hydrology! It's also tremendous because, for the students and young people, the sensitivity to food can begin with their own garden.

Another equally important issue is building relationships between farmers and consumers, and we need to increase this on a very large scale. I think if the IT talent of Bangalore, which gained so much from this country, could just re-direct itself to these two things: solidarity with farmers and the defense of the food rights of the Indian Citizen with their brilliant use of the new technologies, we could mobilize millions of people.

Now all the crises: the climate crisis, the agrarian crisis, the food crisis can all be solved by ecological agriculture and more direct distribution. All our calculations are saying that tomorrow we can solve 40 percent of the climate crisis - globally and nationally - if we shed chemicals and start doing ecological farming which sequesters carbon. In fact, 200 percent more on the basis of our trials when we compared organic farms to chemical farms.

The agrarian crisis would end tomorrow if the farmers weren't getting into debt. Ecological agriculture is the solution of the food crisis; both, for those who do not have food to eat as well as the lower and middle classes spending too much on junk and fake food. We need to move from fake food to real food, for surely, that is the most fundamental freedom that anybody has.