

Exterminating seeds put farmers on the rack

It is the largest wave of suicides in the history of humankind: approximately one every 30 minutes. And it is taking place in India where over 250,000 farmers have taken their own lives between 1995 and 2010. In most instances, killing themselves by ingesting the pesticides they use on their fields.

by Antonio Storto

It's essentially an epidemic: a frightening and senseless epidemic, yet one that is hidden. The latest internationally released figures come from a 2011 report compiled by Vandana Shiva, a scientist and an activist defending biodiversity.

The causes behind the suicides are manifold and are surrounded by controversy. In spite of the tremendous boom in the tech industry, India is still primarily an agrarian country. Sixty percent of its workforce, the largest on the planet, is employed in agriculture, second only to China in terms of productivity. Climate change and fewer monsoons have led to a drop in production, forcing farmers to buy huge amounts of chemical products to protect their dwindling crops. But most of these farmers have no access to credit facilities and so end up in the clutches of loan sharks.

According to Shiva, however, the blame for this epidemic can be landed squarely in the lap of a recently introduced label. Two tiny letters that have turned the Indian cotton industry on its head: BT, as in Bt cotton, the world's first genetically modified cotton. First distributed in 2002, the introduction of Bt cotton marked the Indian farming industry's official

entry into the GMO (genetically modified organism) market.

First sold in 1996 by US multinational Monsanto, the undisputed leader in biotechnologies, Bt cotton is now grown in 85% of India's cotton fields. According to Monsanto, the reason for this inexorable rise is simple: the GMO plant assures a larger yield than its naturally occurring counterpart and requires less chemical assistance. However, the environmentalist community, spearheaded by Navdanya, the organisation founded by Shiva, tells a different story.

"When India legalised trade in GMO cotton", says Ruchi Shroff, Navdanya's international coordinator, "Monsanto representatives went from village to village. They held meetings with the farmers, they offered banquets, they swore on the miraculous qualities of the Bt seeds. Ten years later, we now know that many of these promises were untrue. Pesticide use has increased in fields sown with GMOs and small farmers keep falling deeper and deeper into debt. The switch to GMO cotton has led to a stratospheric rise in prices, from nine to 4,000 rupees per kilo. A hefty proportion of this money goes to cover Monsanto's intellectual property rights because the company holds the patent on the genetic technology".

Bt cotton promised to be the solution to many of the problems plaguing Indian agriculture. Today, however, critics say GMO cotton produces a smaller yield than was initially promised, and, moreover, it has a low resistance to the most common parasites. Last year, the state of Maharashtra banned the sale and distribution of GMO cotton, following a similar decision already taken in the state of Andhra Pradesh, which also forced the Mahyco - Monsanto company to compensate farmers for the damage suffered.

Ruchi Shroff is also the coordinator of the Vidharba Seed Bank, one of more than 100 such centres spread across India's 28 states.



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Here they store, conserve and distribute cotton, corn and vegetables seeds. Through these banks, the organisation has begun redistributing native seeds to farmers who request them, and provides training in organic cultivation. Vandana Shiva says this seed conservation has not only broken up a monopoly; more importantly, it has helped to offset the consequences of an environmental crisis. In fact, it turns out that the majority of India's cotton plants have become sterile: they still bear fruit but no longer produce any seeds. This condition is not only limited to GMO strains, native varieties are also affected.

Many environmental organisations blame this on the transgenic cotton industry, claiming it has essentially set up a monopoly entirely based around the fact that the farmers can no longer conserve any seeds of their own. Monsanto is often accused of having used so-called Terminator technology in India; a genetic alteration that renders seeds sterile at harvest and one that is also contaminating native plants through cross-pollination.

In 2000, the UN Convention on Biological Diversity adopted a de facto moratorium on the Terminator seeds and India and Brazil even passed a law banning their use. Officially,

▣ Navdanya, India, rice growers dry the harvest. In spite of the technology industry boom, life in India is still prevalently based around agriculture.

the seeds have never been put on sale and Monsanto made a public commitment not sell them as long ago as 1999.

But Tiruvadi Jagadisan, former managing director of Monsanto

India, says otherwise. He resigned after discussing induced sterility with one of his American colleagues. Jagadisan, now 86, says: "It happened in May 1987, during a business lunch in St. Louis. A col-

league from the department of agricultural research told me about experiments being conducted to introduce genes of the so-called Terminator variety. I knew what that meant and I was disgusted".

One of the first people Jagadisan told about that meeting was Italian Barbara Ceschi, a former film producer from Vicenza who today runs a green construction business. The debate over GMO cotton compelled her to fund the production of *Behind the Label*, a documentary shot in India by Cecilia Mastrantonio and Sebastiano Tecchio. "The film was not produced with an eye to making a profit or even breaking even. It was my gift to the world. I felt people had to know what was going on and that light should be shed on this deadly, yet so far largely hidden issue", says Ceschi. **E**



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Who is Vandana Shiva?

Vandana Shiva is an Indian scientist, environmentalist and eco-feminist. Daughter of a forest ranger and a forthright ecologist, Shiva grew up in the municipality of Dehradun in the state of Uttarkhand, in the north of the country. In 1977, after graduating in Physics, she was awarded a Master's degree in Philosophy of Science from the Guelph University in Ontario (Canada). In 1978 she completed her research doctorate in Quantum Physics at the University of Western Ontario, with a thesis on Quantum Mechanics. On returning to India she grew interested in issues such as ethical agriculture, biodiversity and globalisation, becoming one of the most influential international voices raised in defence of the environment. In 1991 she was among the founders of

Navdanya, an organisation that hinges around a network of warehouses for the conservation and distribution of native Indian seeds. Up to now, Navdanya has trained over 500,000 farmers in biological agricultural techniques. She has also published numerous reports on the state of agriculture in India and the rest of the world and has thus become a global think tank for the environmentalist and anti-OGM movement. The organisation is a member of Terra Madre, the food communities network founded in 2004 by the Slow Food movement in Turin. In 1994, Vandana Shiva was also among the founders of the International Forum on globalisation, an institution set up by sixty among the leading activists, scholars, economists and scientists on global economic matters.



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