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## Seed Freedom— What Is at Stake

Seed is not just the source of life. It is the very foundation of our being. For millions of years, seed has evolved freely to give us the diversity and richness of life on the planet. For thousands of years farmers, especially women, have evolved and bred seed freely in partnership with each other and with nature to further increase the diversity of that which nature gave us and adapt it to the needs of different cultures. Biodiversity and cultural diversity have mutually shaped one another.

Today, the freedom of nature and culture to evolve is under violent and direct threat. The threat to seed freedom impacts the very fabric of human life and the life of the planet.

Seed keepers, farmers, and citizens around the world have joined together as the Global Citizens Alliance for Seed Freedom to respond to this seed emergency and to strengthen the movement for the freedom of humanity. The Global Citizens Alliance for Seed Freedom is the start of a global campaign to alert citizens and governments around the world of how precarious our seed supply has become and, as a consequence, how precarious our food security has become.

Seeds are the first link in the food chain and the repository of life's future evolution. As such, it is our inherent duty and responsibility to protect them and to pass them on to future generations. The growing of seed and the free exchange of seed among farmers have been the bases of maintaining biodiversity and our food security.

Navdanya was started twenty-five years ago to protect our seed diversity and farmers' rights to save, breed, and exchange seed freely, in the context of the emerging threats of the TRIPS (Trade Related Intellectual Property Rights) Agreement of the World Trade Organiza-

tion, which opened the door to the introduction of GMOs, patents on seed, and the collection of royalties. A Monsanto representative later stated, “In drafting these agreements we were the patient, diagnostician, physician all in one.” Corporations defined a problem—and for them the problem was farmers saving seed. So they offered a solution, and the solution was the introduction of patents and intellectual property rights on seed, making it illegal for farmers to save their seed. Seed as a common good became a commodity of private seed companies, traded on the open market.

Today, the threat is even greater. Consider the following:

- The last twenty years have seen a very rapid erosion of seed diversity and seed sovereignty, and the rapid concentration of control over seed by a very small number of giant corporations.
- Acreage under GM corn, soy, canola, and cotton has increased dramatically.
- Besides displacing and destroying diversity, patented GMO seeds are also undermining seed sovereignty, the rights of farmers to grow their own seeds and to save and exchange seed.
- In countries across the world, including in India, new seed laws are being introduced that enforce compulsory registration of seed, thus making it impossible for small farmers to grow their own diversity, and forcing them into dependency on giant seed corporations.
- Genetic contamination is spreading—India has lost its cotton-seeds because of contamination from Bt cotton, and Mexico, the historical cradle of corn, has lost 80 percent of its corn varieties, and these are but two instances of the loss of local and national seed heritage.
- After contamination, Biotech Seed Corporations sue farmers with patent infringement cases. More than eighty groups came together recently in the United States and filed a case to prevent Monsanto from suing farmers whose seed had been contaminated.
- As farmers’ seed supply is eroded and farmers become dependent on patented GMO seed, the result is indebtedness. Debt created by Bt cotton in India has pushed farmers to suicide.

- India has signed a U.S.-India Knowledge Initiative in Agriculture, with a representative of Monsanto on the board, and states are being pressured to sign agreements with Monsanto. An example is the Monsanto Rajasthan memorandum of understanding (MOU) under which Monsanto would obtain intellectual property rights on all genetic resources as well as research on seed carried out under the MOU. In a campaign led by Navdanya and a “Monsanto Quit India” Beeja Yatra (Seed Pilgrimage), relentless protests by farmers forced the government of Rajasthan to cancel the MOU. Monsanto influence on the U.S. government and the joint pressure of both on governments across the world are major threats to the future of seed and the future of food.
- Wikileaks exposed the U.S. government’s intentions to proliferate the use of GMOs in Africa and Pakistan. Pressure to use GMOs imposed by U.S. government representatives is a direct effort to support giant biotech business and to expand their markets.
- For the ballot initiative on GMO labeling in the United States, corporations led by Monsanto are spending millions of dollars to prevent citizens from exercising their right to know and right to choose.

These trends demonstrate a total control over the seed supply and a destruction of the very foundation of agriculture. The disappearance of our biodiversity and of our seed sovereignty is creating a major crisis for agriculture and food security around the world. We are witnessing a *seed emergency* at a global level. Determined action is called for before it is too late.

### The Assault on Seed

A reductionist, mechanistic science and a legal framework for privatizing seed and knowledge of the seed reinforce each other to destroy diversity, deny farmers innovation and breeding, enclose the biological and intellectual commons, and create seed monopolies.

Farmers’ varieties have been called landraces, primitive cultivars. They have been reduced to a “genetic mine” to be stolen, extracted,

and patented. Not only is the negation of farmers' breeding unfair and unjust to farmers, but it is also unfair and unjust to society as a whole.

Industrial breeding has been based on strategies to sell more chemicals, produce more commodities, and make more profits. The high-yielding varieties of the Green Revolution were in reality high-response varieties, bred to respond to chemicals. Hybrids are designed to force the farmer to the market every season, since they do not breed true. "Yield" focusing on the weight of a single commodity is an inappropriate measure. Commodities do not feed people—they go to producing biofuel and animal feed. Quantity empty of quality and weight empty of nutrition do not provide nourishment. Beginning with the false assumption that farmers' varieties are "empty," industrial corporate breeding gives us seeds and crops that are not only nutritionally empty but loaded with toxins.

The rendering invisible of the diversity that seed farmers have bred began with the so-called Green Revolution. The Green Revolution narrowed the genetic base of agriculture, encouraging monocultures of rice, wheat, and corn. Varieties bred for response to chemicals were declared miracle seeds and high-yielding varieties.

Industrial breeding has used different technological tools to consolidate control over the seed—from so called HYVs to hybrids to genetically engineered seeds to "terminator seeds" and now to synthetic biology. The tools might change, but the quest to control life and society does not.

What I have called the "monoculture of the mind" cuts across all generations of technologies to control the seed.

- While farmers breed for diversity, corporations breed for uniformity.
- While farmers breed for resilience, corporations breed for vulnerability.
- While farmers breed for taste, quality, and nutrition, industry breeds for industrial processing and long-distance transport in a globalized food system.

Monoculture of industrial crops and monocultures of industrial junk food reinforce each other, wasting the land, wasting food, and wasting our health.

The privileging of uniformity over diversity, of quantity over quality of nutrition, has degraded our diets and displaced the rich biodiversity of our food and crops. It is based on a false creation boundary that excludes both nature's and farmers' intelligence and creativity. It has created a legal boundary to disenfranchise farmers of their seed freedom and seed sovereignty, and impose unjust seed laws to establish corporate monopoly on seed. Whether it be breeders' rights imposed through UPOV 91 or patents on seed or seed laws that require compulsory registration and licensing, an arsenal of legal instruments is being invented and imposed undemocratically to criminalize farmers' seed breeding, seed saving, and seed sharing.

Every seed is an embodiment of millennia of nature's evolution and centuries of farmers' breeding. It is the distilled expression of the intelligence of the earth and the intelligence of farming communities. Farmers have bred seeds for diversity, resilience, taste, nutrition, health, and adaptation to local agroecosystems. Industrial breeding treats nature's contributions and farmers' contributions as nothing.

Just as the jurisprudence of *terra nullius* defined the land as empty and allowed the takeover of territories by the European colonists, the jurisprudence of intellectual property rights related to life-forms is in fact a jurisprudence of *bio nullius*—life empty of intelligence. The earth is defined as dead matter, so it cannot create. And farmers have empty heads, so they cannot breed.

### **The TRIPS Agreement and the Ethical Dimension**

The deeper level at which the seed emergency is undermining the very fabric of life is the ethical dimension of this issue. We are all members of the earth family, stewards in the web of life. Yet corporations that claim legal personhood are now claiming the role of creator. They have declared seed to be their "invention," hence their patented property. A patent is an exclusive right granted for an "invention" that allows the patent holder to exclude everyone else from making, selling, distributing, and using the patented product. With patents on seed, this implies that the farmers' right to save and share seed is now in effect defined as "theft," an "intellectual property crime."

The door to patents on seed and patents on life was opened by

genetic engineering. By adding one new gene to the cell of a plant, corporations claimed they had invented and created the seed, the plant, and all future seeds, which have now become their property. In other words, GMO meant God, move over.

In defining seed as their creation and invention, corporations like Monsanto shaped the global intellectual property and patent laws so that they could prevent farmers from seed saving and sharing. This is how the TRIPs Agreement of the World Trade Organization was born. Article 27.3(b) of the TRIPs Agreement states: "Parties may exclude from patentability plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, parties shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof." Again, this protection on plant varieties is precisely what prohibits the free exchange of seeds between farmers, threatening their subsistence and ability to save and exchange seeds.

The TRIPs clause on patents on life was due for a mandatory review in 1999. India in its submission had stated, "Clearly, there is a case for re-examining the need to grant patents on lifeforms anywhere in the world. Until such systems are in place, it may be advisable to . . . exclude patents on all lifeforms." The African group stated, "The African Group maintains its reservations about patenting any life-forms as explained on previous occasions by the Group and several other delegations. In this regard, the Group proposes that Article 27.3(b) be revised to prohibit patents on plants, animals, micro-organisms, essentially biological processes for the production of plants or animals, and non-biological and microbiological processes for the production of plants or animals. For plant varieties to be protected under the TRIPs Agreement, the protection must clearly, and not just implicitly or by way of exception, strike a good balance with the interests of the community as a whole and protect farmers' rights and traditional knowledge, and ensure the preservation of biological diversity."

This mandatory review has been subverted by governments within the WTO: this long overdue review must be taken up to reverse patents on life and patents on seed. Life-forms, plants, and seeds are all evolving, self-organized, sovereign beings. They have intrinsic worth, value,

and standing. Owning life by claiming it to be a corporate invention is ethically and legally wrong. Patents on seeds are legally wrong because seeds are not an invention. Patents on seeds are ethically wrong because seeds are life-forms; they are our kin, members of our earth family.

The worldview of bio nullius—empty life—unleashes violence and injustice to the earth, to farmers, and to all citizens. The violence to the earth is rooted in the denial of the creativity and the rights of the earth as well as in the displacement of diversity.

### Biopiracy

The violence to farmers is threefold. First, their contribution to breeding is erased and what farmers have coevolved with nature is patented as an innovation. We call this “biopiracy.” Patents on life are the hijacking of biodiversity and indigenous knowledge; they are instruments of monopoly control over life itself. Patents on living resources and indigenous knowledge are an enclosure of the biological and intellectual commons. Life-forms have been redefined as “manufacture” and “machines,” robbing life of its integrity and self-organization. Traditional knowledge is being pirated and patented, unleashing this new epidemic of biopiracy. To end this new epidemic and to save the sovereignty and rights of our farmers, it is required that our legal system recognize the rights of communities, their collective and cumulative innovation in breeding diversity, and not merely the rights of corporations.

Moreover, patents lead to royalty collection, which is simply extortion in the name of technology and improvement. If the first colonization based on terra nullius gave us landlords and “Zameindari” who pushed 2 million people to death during the Bengal Famine, the new bioimperialism based on bio nullius has given us life lords—the biotechnology/seed/chemical industry, which has pushed 260,000 Indian farmers to suicide.

In Brazil, farmers have been fighting against seed giant Monsanto, most recently filing a lawsuit hoping to sue the company for over €6 million on the grounds that the company has been unfairly collecting royalties from the farmers. The seeds Monsanto has been collecting royalties on are from what are known as “renewal” seed harvests, meaning that the seeds have been collected from the previous harvest,



a practice used for centuries. But because these seeds are from Monsanto's genetically modified plants, the company is demanding that farmers pay. Not only are these royalties unfairly enforced, but they are also pushing farmers deeper into debt that they cannot pay back, leaving them floundering in their fields of failed genetically modified crops.

In addition, when the genetically engineered crops contaminate neighboring farmers' fields, the "polluter pay" principle is turned on its head and corporations use patents to establish the principle of "polluter gets paid." This is what happened in the case of Percy Schmeiser in Canada as well as to thousands of farmers in the United States.

Owning and controlling life through patents and intellectual property rights was always the primary objective. Genetic engineering was the gateway to patents. Now the corporations are taking patents on conventionally bred and farm-saved seeds.

During the first Green Revolution (1950s/1960s), farmers' breeding was neglected. During the second Green Revolution (1990s), the biotech industries pushed for seed totalitarianism. Farmers' breeding is being criminalized. In 2004, an attempt was made to introduce a seed law in India that would require the compulsory registration of farmers' varieties. A seed satyagraha was started, and the law has not yet passed . . . *satyagraha* (force of the truth) was Gandhi's word for not cooperating with unjust laws. Gandhi said, "As long as the superstition exists that unjust law must be obeyed, so long will slavery exist." We need to globalize noncooperation with unjust seed laws. This is at the core of the movement for seed freedom. The stories of seed freedom are stories of courageous and creative individuals and organizations who are challenging unjust laws.

Patents on seed are unjust and unjustified. A patent or any intellectual property right is a monopoly granted by society in exchange for benefits. But society has no benefit in toxic, nonrenewable seeds. We are losing biodiversity and cultural diversity, we are losing nutrition, taste, and quality in our food. Above all, we are losing our fundamental freedom to decide what seeds we will sow, how we will grow our food, and what we will eat. Seed as a common good has become a commodity of private seed companies that unless protected and put back in the hands of our farmers is at risk of being lost forever.

Resistance to unjust seed laws through the seed satyagraha is one

aspect of seed freedom. Saving and sharing seeds is another aspect. That is why Navdanya has worked with local communities to reclaim seed diversity and seed as a commons by establishing more than one hundred community seed banks. Across the world, communities are saving and exchanging seeds in diverse ways appropriate to their context. They are creating and recreating freedom—for the seed, for seed keepers, and for all life and all people.

When we save seed, we also reclaim and rejuvenate knowledge—the knowledge of breeding and conservation, the knowledge of food and farming. Uniformity as a pseudo-scientific measure has been used to establish unjust intellectual property rights (IPR) monopolies on seed. And IPR monopolies reinforce monocultures. Once a company has patents on seeds, it pushes its patented crops on farmers in order to collect royalties. Humanity has been eating thousands upon thousands (eighty-five hundred) of plant species. Today we are being condemned to eat GM corn and soy in various forms. Four primary crops—corn, soy, canola, and cotton—have all been grown at the cost of other crops because they generate a royalty for every acre planted. For example, India had fifteen hundred different kinds of cotton; now 95 percent of the cotton planted is GMO Bt cotton, for which Monsanto collects royalties. Over 11 million hectares of land are used to cultivate cotton, of which 9.5 million hectares are used to grow Monsanto's genetically modified Bt variety. Corn is cultivated on over 7 million hectares of land, but of this area 2,850,000 hectares are used for a “high-yielding variety” corn. Soy now covers an area of approximately 9.95 million hectares, and canola approximately 6.36 million hectares. The mass shift toward the cultivation of these crops not only threatens the diversity of other crops but threatens the health and well-being of natural resources such as the soil, as this monoculture approach to farming drains the earth of its nutrients.

To break out of this viciousness of monocultures and monopolies, we need to create virtuous cycles of diversity and reclaim our biological and intellectual commons. Participatory breeding of open-source seeds and participatory framing of open-source rights are innovations that deepen seed freedom. Seed freedom has become an ecological, political, economical, and cultural imperative. If we do not act, or have a fragmented and weak response, species will irreversibly disappear. Agri-

culture and the food and cultural spectrum dependent on biodiversity will disappear. Small farmers will disappear, healthy food diversity will disappear, seed sovereignty will disappear, and food sovereignty will disappear.

By speaking and acting strongly in one voice in defense of seed freedom as the Global Citizens Alliance, we can put the obscenity, violence, injustice, and immorality of patents on seeds and life behind us. Similarly, in another period slavery was made a thing of the past. Just as today corporations find nothing wrong in owning life, slave owners found nothing wrong in owning other humans. Just as people back then questioned and challenged slavery, it is our ethical and ecological duty—and our right—to challenge patents on seeds. We have a duty to liberate the seed and our farmers. We have a duty to defend our freedom and protect open-source seeds as a commons. This Global Citizens Alliance report on seed freedom is a kernel/seed that we hope will multiply and reproduce until no seed, no farmer, no citizen is bonded, colonized, or enslaved.