

FARMER SUICIDES –THE INTELLECTUAL PROPERTY RIGHTS REGIME AND THE MENACE OF BT. COTTON

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INTRODUCTION

There has been a lot of progress in the recent era in the area of biotechnology and the patents for various new technological developments in this field of bio chemistry and this has greatly impacted the field of agriculture especially in agriculture in the developing countries like India. The Phenomenon like the 'green revolution' has greatly improved the farm productivity and growth and raised the need for patenting even in the field of these new inventions with regard to technological advancements in the farm sector. These new improvements are being assigned to the field of "biotechnology"¹. This field offers for a new technique of cross breeding by which to improve the efficiency and the productiveness of the living thing. It involves tampering with the naturally given organism or plant to produce a variety supposedly immune to various diseases. These new seeds or plants or animals are called genetically modified (transgenic) plants which introduce new genes into the breeding pool leading to a more efficient variety². Since many developing countries depend on agriculture, the patenting system which so greatly affects the farm sector has had its merits and its drawbacks. Now, I will trace the patenting regime from when it was first introduced.

THE HISTORY OF THE INTELLECTUAL PROPERTY REGIME WITH REGARD TO AGRICULTURE

One of the most important agreements incorporated in the Uruguay round of the WTO is the trade related intellectual property rights (TRIPS). It is one of the bases for the working of the world trade organization and has marked its operation since its inception in 1994-5. The WTO includes many inter- governmental agreements with regard to agricultural trade. The border restrictions like quota, trade tariffs which previously existed in the international commerce were removed and the growth of the free flow of goods and commerce led to the necessity of having a system to protect your intellectual property from counterfeiting, copying etc. through various immunities like patents, copyrights, trademarks, industrial design, geographical indicator etc.³ Many of the agreements like the Convention on Biological Diversity (CBD) and the WTO, and further, signing of International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) etc. helped in increasing the importance of protection of the innovators of the ultimate

¹ accessed March 22, 2016, <https://www.cbd.int/doc/case-studies/ttcc/ttcc-00005-en.pdf>.

² ibid

³ Fink, Carsten. "Intellectual Property and the WTO.

rewards in agriculture so as to increase efficiency through a private property regime which is one of the goals of the WTO⁴. One of the most important ways through which intellectual property rights are protected is through the instrument of patents which are commonly granted in the field of agriculture. The plant breeder rights also are a very common instrument for protection of IPR in the farm sector. They include sale and distribution of the varieties for a minimum of 15 years. These rights have exceptions in that other companies can use the varieties as basis for research and the farmers can reuse the seed that they used in the previous season. But most of the biotechnology companies are using the conventional patenting regime which prevents the operation of these two exceptions.⁵ The TRIPS agreement was signed in the year 1996. But many of the developing countries were given a period of transition so as to adjust their economies to the new patenting regimes. But in case of biotechnology or agricultural chemical products, they were asked to immediately accept the patents regime.⁶ The plant variety protection under the TRIPS article 27 (3) (b) provides for protection through patents or through a *sui generis* process. In agriculture, patents may be provided for vaccines, agrochemicals, hides and wool, dairy products, bio information, gene sequences etc. Countries are to abide by this international IPR regimes and disputes to be resolved by the WTO.⁷

DEVELOPMENT OF US PATENT LAWS WITH REGARD TO SEEDS

The U.S. patent laws have had a very large impact on that of the developing nations and the international IPR as such. The internal framework of the US legal and governmental system has enabled a very broad patent regime in favour of the private sector because of its influence mainly through the office of the US trade representative. The US policy on patent of seeds can be said to have vast implications for the poverty and inequality in the world. A very strict patent regime for seeds has been in place in both the developed and developing countries. Especially in the US this is given a lot of priority in many of its trade agreements leading to a global 15-million dollar seed industry. For thousands of years, farmers have been saving seeds and have been engaging in resale, replanting of seeds as beneficial practices and farmers have never seen seed as a commodity rather they regarded the original genetic structure of seed sacrosanct. The natural characteristic of seed which allows it to reproduce itself for generations together has been a barrier to commodification. Until recently, the USDA encouraged seed saving since seeds were seen as a good shared by all and they were seen as something to be gotten from accompany or sold. Private investment was almost non-existent. The history of the US also talks about the Europeans sharing corns from the Native Americans for food. Seed, as a commodity which cannot be reproduced or reused once fully used started in 1908 with the first seed lobbying association in the US. Hybridization also began. The practice of cross-breeding of seeds by introducing new genetic sequences led farmers to buy improved versions of seeds. But the drawback

⁴ accessed March 22, 2016, <http://naasindia.org/Policy%20Papers/pp19.pdf>.

⁵ Supra 3

⁶ ibid

⁷ supra note 4

was these seeds were not effective after the first sowing and the farmers had to keep buying the seeds. The judicial decision of **Diamond v Chakrabarty**⁸ laid the base work for commodification of seeds leading to monopoly in companies like Monsanto.⁹

The US plant patent act, 1930 and 1952 provided an opportunity to the private industry to push for the patenting regime on the new type of “asexually reproducing plants”¹⁰. This led to rapid privatisation and major lobbying which led another act in 1970 called the plant variety protection act which also included sexual reproduction and the germination of the seed.¹¹ This led to the phasing out of government provision of free distribution of seeds and large monopolies in seed industry.¹²

Many judicial decisions led the pathway for this commercialisation of seed. The court in the case of **Diamond v Chakrabarty** said that patents grant depends on whether something is product of nature or of humans, whether it is living or non-living¹³ and it provided for very broad interpretations and removal of exceptions in the plant breeders’ rights. The *ex parte Hibberd* case acted as the next step in the eradication of seed saving. This case led to provision of 280 utility patents for the part of germplasm.¹⁴ Another case called the **Asgrow case** proved a bane for small farmers as seed saving was not granted to them and they were asked to compensate instead of large businesses like Monsanto and Dupont.¹⁵ In this case, **J.E.M. AG Supply v. Pioneer Hi-Bred International**, the court interpreted the legislations very broadly and validated utility patents.

Another important device killing farming and increasing inequality in the US is the ‘terminator technology’ which enforces contracts between large agribusinesses and the farmers nullifying the seed-saving capacity of the farmers.¹⁶ The United states department of agriculture itself cooperated with the Delta and pine land company to enforce this

⁸ 447 U.S. 303 (1980)

⁹ See Aoki, supra note 19, at 264. The term “Jeffersonian” refers to Thomas Jefferson’s vision of the United States as an agrarian republic composed of independent farmers. *THE READERS COMPANION TO AMERICAN HISTORY: JEFFERSONIAN DEMOCRACY*, available at http://college.hmco.com/history/readerscomp/rcah/html/ah_047600_jeffersonian.htm (last visited April 20, 2005)

¹⁰ U.S. Plant Patent Act of 1930, 35 U.S.C. § 161 (2003)

¹¹ Plant Variety Protection Act, 7 U.S.C. § 2321 (2000)

¹² Keith Aoki, *With Seeds & Deeds: Recent Skirmishes in the Seed Wars*, 11 *CARDOZO J. INT’L & COMP. L.* 247, 253 (2003)

¹³ Shradha A. Upadhyaya, *The Postmodern Written Description Requirement: An Analysis of the Application of the Heightened Written Description Requirement to Original Claims*, 4 *MINN. INTELL. PROP. REV.* 65, 108-109 (2002)

¹⁴ Supra note 12

¹⁵ *Asgrow Seed v. Winterboer*, 513 U.S. 179 (1995)

¹⁶ Samantha M. Ohlgart, *The Terminator Gene: Intellectual Property Rights v. The Farmers’ Common Law Right to Save Seed*, 7 *DRAKE J. AGRIC. L.* 473, 474 (2002)

mechanism. And the same year Monsanto acquires the company which enables it to completely takeover the rights of the small farmers.¹⁷

With the establishment of WTO which itself involved companies like the Monsanto in the signing of the basic agreements and the globalization and liberalisations policies and the free flow of trade and finance and also food products, and since every food product in the US contained some GMO product, the global seed industry rose to \$450 million in 1995 to \$6.6 billion in 2005.¹⁸ The so-called agreement TRIPS which sought to bring about balance in the patents regimes to prevent its uncontrolled misuse was greatly influenced by business interests. In the US itself the USTR acted as an office through which private businesses could influence the policies. With the rising influence on the government especially during the Reagan regime, the major CEOs, players in the agribusinesses industry formed a major lobbying groups which gained access to the highest level decision making bodies in the US. Bodies such as the Advisory committee for trade negotiations were completely captured by private interests and these groups also started lobbying for their own IP policy at the Uruguay round.¹⁹ The GATT round was dominated by the private players' own IP policy and they got most of what they wanted.²⁰ The US also influences the international adoption of these IP policies through an act called the Omnibus trade act of 1974 which provides for a provision called section 301 which identifies countries not following the regime and "persuading" these countries to conform to the policy.²¹

There is also major dispute between the global north and the south with regard to IP regime. Since most of the world's bio geo diverse resources are in the tropical, southern hemisphere, the south accuses the north of freely taking its resources by regarding these resources as global common property while treating their patents as their own which is not really valid.²² The southern farmers also bear huge costs in being denied the right to save seeds even while the North claims rights to protect its "inventions".²³

INDIA'S INTELLECTUAL PROPERTY REGIME WITH REGARD TO SEEDS AND AGRICULTURE

The Indian patent act, 1970 provides the framework for the IP regime in India. Patents are mostly allowed to be applicable to various tools and machinery required for agriculture.

¹⁷ Lara E. Ewens, Seed Wars: Biotechnology, Intellectual Property, and the Quest for High Yield Seeds, 23 B.C. INT'L & COMP. L. REV. 285, 295 (2000)

¹⁸ JEREMY RIFKIN, Harvesting the gene and remaking the world: the biotech century 68 (1998)

¹⁹ Jacques Gorlin, A Trade-Based Approach for the International Copyright Protection for Computer Software (1985)

²⁰ Robert J. Penchman, Seeking Multilateral Protection for Intellectual Property: The United States "TRIPS" over Special 301, 7 MINN. J. GLOBAL TRADE 179, 183 (1998)

²¹ *ibid*

²² J.M. Spectar, Patent Necessity: Intellectual Property Dilemmas in the Biotech Domain & Treatment Equity for Developing Countries, 24 HOUS. J. INT'L L 227, 234 (2002)

²³ *ibid*

Earlier, the different life forms including seed, biochemical, curative medicines etc., were not allowed to be patented. Inventions only with regard to alloys, optic glass, semi-conductors which could be used in drugs were patentable.²⁴ But, after 2005, having become a signatory to the TRIPS agreement, India had to enforce patenting in the case of agrochemicals as under section 27(3)(b) of the agreement.²⁵ India adopted a sui generis patent system in that it allowed for the alternative development of plant protection based on tradition, local customs etc. which was incorporated in the protection of plant varieties and farmers' rights act, 2001.²⁶ The Indian law has provided for various restrictions on the patenting in agriculture. Section 3(h) (j) (i) exclude many life forms from being patented. Section 3(h) says that any particular method in agriculture is not patentable.²⁷ Section 3 (i)²⁸ also excludes any medicinal, therapeutic treatment for humans or animals or plants and also prevents patenting of any breeding or culture tissue techniques.

India has amended its patent act twice since its inception and also since the TRIPS agreement came into effect. The first amendment sought to implement the section 70.8 and 70.9 of the TRIPS in providing exclusive commercial rights and mail box arrangements²⁹. The major change in the patent act, however, came with the second amendment which affected the area of seeds and agriculture and not the patents in medicine. This amendment removed the word 'plants' from the section 3 (i) of the act and so, allowing for patents for any modification or interference with the plant genes³⁰. This opened the pathway for companies to introduce the Bt. Cotton which contains an injected bacterium in it to fight against the bollworm. So, large companies like Monsanto gain exclusive rights over patenting in seed. The second amendment also added a new section 3(j) which explicitly said that the production of GMOs would come under the category of invention and so would be patentable. But it does provide an exception to any of the "biological processes". This however doesn't change anything because the new technologies allowing for modifications in plants and animals are not necessarily recognized as biological. Since there is ambiguity regarding what can be considered biological, it basically allows the transgenic crops into India³¹. This amendment is a manifestation of the section 27.3(b) of TRIPS. It buttresses the fact that Monsanto had a hand in the drafting of TRIPS agreement.

²⁴ accessed March 22, 2016,

[http://nopr.niscair.res.in/bitstream/123456789/11571/1/JIPR%2016\(2\)%20131-138.pdf](http://nopr.niscair.res.in/bitstream/123456789/11571/1/JIPR%2016(2)%20131-138.pdf).

²⁵ "WTO | Intellectual Property (TRIPS) - Agreement Text - Contents," accessed March 22, 2016, https://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm.

²⁶ *ibid*

²⁷ accessed March 23, 2016,

http://ipindia.nic.in/ipr/patent/patent_Act_1970_28012013_book.pdf.

²⁸ *ibid*

²⁹ S/R 30: The Real Reasons for the Second Amendment of the Indian Patent Act (Vandana Shiva)," accessed March 23, 2016, <http://www.greens.org/s-r/30/30-19.html>.

³⁰ "India Together: Patents (Second Amendment) Bill - June 2002," accessed March 23, 2016, <http://indiatogether.org/legislation/bills/patentsamend.htm>.

³¹ *Supra* note 29

Article 27.3(b) of TRIPs 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. This provision shall be reviewed four years after the entry into force of the Agreement establishing the WTO.”³²

The article 65(4) of the TRIPS agreement provided that India has time till 2005 for the introduction of product patent regime for micro-organisms. But this amendment allowed for immediate introduction of the patents.³³ The entry of Monsanto into India was made possible by the 1988 seed policy by which the World Bank asked India to open up its seed sector. Seed, which was a common good became intellectual property of Monsanto making the seeds expensive. Seed, a renewable resource became a patented product of a company. Cotton which was grown along with other food crops now covered huge swathes of land in Maharashtra, Karnataka. Monsanto started using the public forum to promote its hybrid seeds through PPPs.³⁴ In 1995, Monsanto joined with the Indian company called Mahyco but was unable to get approval under Indian environmental law and the court also put a moratorium but the effects of GMOs had already seeped into Indian agriculture.³⁵

India did resist such reforms. In its discussion paper at the TRIPS council, India mentioned that the extension of patents over the biological life forms has the angle of ethicality of such move and its relevance for the larger realm of knowledge, use etc. But the Monsanto, by its subversion of the democratic processes gained entry through the approval of the genetic engineering approval committee. But Monsanto’s hypocrisy can be seen in its action a few months prior to this approval. It ordered the burning of huge swathes of land having Bt. cotton crops from another company Navabharat on the grounds of biosafety with the reason this plants would cause lot of environmental and human damage if allowed to cross-pollinate with the local plants. After paving way for establishment of monopoly, it resorted to TRIPS and patent rights to maintain its domination.³⁶

EUROPEAN SEED PATENTING REGIME

While the US is an example of a very liberal patenting regime favouring the private players, Europe is much more pragmatic and protective of the farmers and the people’s rights in its

³² Supra note 25

³³ Supra note 30

³⁴ “The Seeds Of Suicide: How Monsanto Destroys Farming,” *Global Research*, accessed March 23, 2016, <http://www.globalresearch.ca/the-seeds-of-suicide-how-monsanto-destroys-farming/5329947.s>

³⁵ *ibid*

³⁶ admin, “How Monsanto Wrote and Broke Laws to Enter India,” *Dr Vandana Shiva*, July 23, 2015, <http://vandanashiva.com/?p=260>.

approach. In Europe various countries adopted plant protection acts – Netherlands in 1942 and Germany in 1953. In Europe, a plant patent is allowed only if it is feasible to replicate such an invention in more than one type of plant. The International convention for protection of new varieties of plants in 1961 extended this regime to other countries forming a Union for the protection of new varieties of plants or UPOV. The European patent convention was established and it doesn't allow for patenting in any plants, biological life forms. This larger convention nullified all the previous national acts allowing for such patents. It also allows for compulsory licensing.³⁷ Recently many European nations kicked out companies such as Monsanto.³⁸

SEED PATENTS – FARMER SUICIDES AND POVERTY

Now, I would like to point out the devastating effects these seed patents have had on the lives of millions of farmers in the country, on ecology and on poverty and inequality. In this context, it hits us that poverty is not the burden of fate to be borne by people chosen by random selection but the burden of irresponsible and unjust actions of others to be borne by a specifically targeted group of people who have to be sacrificed for the endless greed of some. A prominent activist for seed freedom, Vandana Shiva said -

“Whatever happens to seed affects the web of life”.

From the beginning of life, we have seed has always been considered sacred, as the inceptor of life on earth. It has been always shared, re-used and worshipped in all the countries as have been other resources like the land, water etc. All the people used to have common access and their respect for these resources never led them to be wasted. So, everyone had access and poverty existed only among classes who were deprived by way of belonging to any certain group. Our Vedas also say that it is in giving that you feel happy and rich. Poverty, in the modern day has been caused because of the fall from these ideals and what has been more catastrophic for the Indian farmer than the patent regime of seed and entry of foreign companies. Commodification, as we have seen, began with the dominance of private interests and private property. The idea is that seeds can be infinitely reproduced and reused which is why they can't be commodified. This holds true for almost every resource and life on earth. It is like saying we will sell and buy humans. Poverty has always been caused by this exclusivity – the fact that we have to pay for something that has been provided bounteously by nature and the fact someone claims ownership to such resources. I have traced the commodification of seed and its effect on the international and national policies. I will now proceed to explain why the concept of genetic engineering itself engenders farmers. Since this saving of seeds prevents its sale and commodification, the private interests sought to destroy that ability of the seed and create a seed which would

³⁷ Supra note 26

³⁸ “LockerDome - Personalize the Web,” *LockerDome*, accessed March 23, 2016, <https://lockerdome.com/lad/8058416014960231>.

lose its effectiveness in the second round of planting³⁹ which would allow companies to sell seed in the name of bioengineering. Since private companies are invariably for profits, bioengineering is just a façade for tampering with the seed in a wrong manner which would make it look the yield is increasing but the same actually decreases immediately for the subsequent planting. This is the so-called hybridization and biotechnology. This can be clearly seen in the case of green revolution. The Green revolution introduced hybrid varieties of seeds called the HYV seeds which were a product of cross-breeding and introduction of new genetic sequence which apparently claimed to make agriculture effective and productive. But the result led to devastation for small-scale farmers. It put farmers in a vicious cycle of debt. All the products associated with green revolution like fertilizers, insecticides and the seeds themselves are very expensive. The seeds were made so that they needed the use of the fertilizers which increased the input costs drastically. Apart from that the use of chemicals destroyed the fertility of land and more chemicals had to be used to keep up whatever fertility was remaining. The underground table got destroyed by these chemicals and water scarcity increased. This pushed the farmers into more and more debt and also into low levels of poverty. They also had no chance of mobility. They were stuck in this tunnel with hopelessness and despair which also started the suicides of the farmers. The food producers of the country were driven to death because they were not able to meet the food needs of their own family. In Punjab itself, many people were inflicted with cancer like Santosh Rani in whose village 40 people died from cancer⁴⁰. These people rarely have the money to treat themselves and the very huge costs of the pharmaceuticals made it harder. Poverty made them unable to vulnerable to an environment, diseases and increased migrations to urban areas which themselves had no space nor resources to spend on these people. They can never really come out of this vicious circle. Agriculture gradually declined. This is the same that happened with US. It is not that there is very less farming in US. Farmers were driven out by the private interests and monoculture and the use of more machines and chemicals.

On top of all this, the government introduced liberalization and opened up the country to the world market in 1991 which itself was a tactic used by the WTO which asked for removal of trade barriers for any financial help which India needed at that time. This also called for a shift to cash crops from food crops⁴¹. Traditionally, farmers used organic methods and kept good tree cover and practiced crop rotation. The tree cover protected the soil from eroding. The multiple layers of vegetation added a lot of nutrients to soil and improved it. This also gave for a diverse diet and a relatively low cost minimum needs diet⁴².

³⁹ "Seed Wars: Biotechnology, Intellectual Property, and the Quest for High Yield Seeds," *Boston College International and Comparative Law Review*, n.d.

⁴⁰ Daniel Pepper, "The Toxic Consequences of the Green Revolution," *US News & World Report*, July 7, 2008, <http://www.usnews.com/news/world/articles/2008/07/07/the-toxic-consequences-of-the-green-revolution>.

⁴¹ "Exports Liberalization and Specialization in Cash Crop: Gains for Vietnamese Households?," accessed March 23, 2016, <http://www.cepii.fr/IE/rev118/ei118c.htm>.

⁴² Borlaug, Norman: "The Green Revolution Revisited and the Road Ahead." Lecture to Norwegian Nobel Institute: Oslo, 2000

Each caste had its own plot of land allowing each person to participate in economic growth which is important for freedom and richness in life⁴³. The needs of the people were such that the costs of leading a decent, proper life were very less with no exclusivity. The introduction of GMO crops and genetically changed crops allowed only a single type of crop to be grown which affects the fertility of the soil. Since different crops would want different nutrients from soil, it would provide time for soil to relax with respect to particular nutrients not possible in monoculture⁴⁴. Since the GMOs only could sustain heavy chemicals, farmers were forced to buy them at very high prices. This destroyed the richness and the bio geo diverse nature of the land and the soil which provided for so many generations living on the land. The genetically engineered seeds led to large swathes of land being planted by one crop and the small farmers with more and more debts had very less bargaining power with such big companies like the Monsanto.⁴⁵

“65% of Punjabi farmers owned fifteen acres of land or less, and their land only accounted for about 34% of the total land of the state. The rest of the land was owned by the minority of farmers who owned twenty acres or more. While a majority of farmers in Punjab farmed ten acres or less, it was shown that only farmers that owned at least twenty acres could afford to purchase the new inputs of the Green Revolution”, Newman wrote in his paper⁴⁶. The small farmers were being left behind. Where the prices of all inputs increased invariably, the competition for loans increased and farmers have to really rely on the unofficial moneylenders to keep up with the cost who sometimes charged interests as high as 24%⁴⁷. Ancient customs involved sharing of knowledge regarding the organic methods among farmers. But now, farmers only have markets to depend on which makes it very expensive because the company constantly seeks to increase the prices by introducing newer and newer designs leading to evergreen patents. The law here has completely debilitated the farmers from even using the old methods because since the advent of GMO seeds, farmers have been unable to save seeds being subject to lawsuits and false accusations by the companies even for unpatented seeds. Many farmers have called Monsanto as the ‘seed police’.⁴⁸

The native decentralized knowledge also acted as a connector of different communities. Each community was on the same level with regard to their land and knowledge common to everyone. But the introduction of these crops and their bad effects gave rise to dissatisfaction and a disparity and inequality between different communities as now it was

⁴³ accessed March 23, 2016,

<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1027&context=envstudtheses>.

⁴⁴ *ibid*

⁴⁵ *ibid*

⁴⁶ Robert S. Newman, “Green Revolution--blue Revolution: The Predicament of India’s Traditional Fishermen,” *South Asia: Journal of South Asian Studies* 4, no. 1 (June 1, 1981): 35–46, doi:10.1080/00856408108723014.

⁴⁷ *Supra* note 44

⁴⁸ “Monsanto vs Farmer,” *The Grand Disillusion*, April 23, 2009, <https://thegrandidisillusion.wordpress.com/monsanto-vs-farmer/>.

money that decided produce. The ethicality and the value based life also was lost and everything got a price and the market dictated the social relations. Markets know nothing but price.⁴⁹

The opening up of agriculture to world markets, growing indebtedness, frequent loss of produce and wages led to despair and disillusionment and ultimately resulted in suicides. Most of the suicides were from the backward classes in the beginning but as of now, the poverty itself has acted as a great leveller and suicides are now rampant among all communities. Even if there is equality in poverty, still people are poor and many people are dying of hunger and despair.

Monsanto also has practiced many illegalities. First of all, it has subverted the Indian laws through international influence and created this idea of 'inventions' of plants and seeds which is absolutely ridiculous as nature has already provided for a well- balanced system of living. Monsanto's collection of royalties and fees is a separate category created by its lawyers since they don't have patents for many seeds and plants⁵⁰. The very allowance of GMO crops is illegal smuggling into the country subverting laws such as those passed by the Karnataka government after having seen thousands of farmers die in its villages⁵¹.

The Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Micro Organisms, Genetically Engineered Organisms or Cells (notified under the Environment Protection Act, 1986) governs the entry of such crops. Article 7 of these rules prevents the import of any GMO seeds. On 10 March 1995, MAHYCO (which became Monsanto-Mahyco in 1998) imported 100 grams of cottonseed that contained the MON531-Bt Gene into India without approval from the GEAC. MAHYCO, under undisclosed circumstances, had obtained permission from the RCGM (Review Committee of Genetic Manipulation under the Department of Biotechnology (DBT)), which does *not* have the authority to approve such an import. Without the approval of the governing body responsible for the approval of the import (GEAC) Monsanto had smuggled a controlled substance into India.⁵²

CONCLUSION

The Indian legal framework and institutional mechanism should be strengthened to prevent further farmer suicides and distress. The laws are not strong and allow for subversion by private interests. A committee consisting of academics, persons extensively researching on the bad effects of seed patents, farmers' unions should be formed to effectively implement the strong laws and prevent weakening of laws. India should also

⁴⁹ "The Violence of the Green Revolution," *Goodreads*, accessed March 23, 2016, http://www.goodreads.com/work/best_book/269806-the-violence-of-green-revolution-third-world-agriculture-ecology-and-p.

⁵⁰ admin, "How Monsanto Wrote and Broke Laws to Enter India."

⁵¹ "GM Free Karnataka," *GM Free Karnataka*, accessed March 23, 2016, <https://gmfreekarnataka.wordpress.com/>.

⁵² Supra note 48

argue and bargain strongly in the WTO and question the sanctity of TRIPS agreement and free itself from the restrictions on its sovereignty by such institutions and also from US influence on the policy making. Most of all, the idea of traditional system of seed saving, food crops, organic farming, commodification of important common resources should not be allowed at all. Certain important sectors like agriculture and seed shouldn't be open to private sector and especially the foreign FDI. India should assert its interest in keeping certain trade barriers. Awareness programmes and training programmes among farmers should be conducted to discourage use of the chemical products. The field of agriculture should also be encouraged among the youth. Poverty reduction should also be seen as everyone having a decentralized access to resources.