

Committee/Council: Economic and Social Council (ECOSOC)

Issue: Preventing the erosion of farmers' seeds sovereignty

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Position: Deputy-President

Dear Delegates,

My Name is Katerina Seni, I am 17 years old and I attend the 12th grade of the German School of Athens. In the 20th DSA-MUN Conference 2017 I will serve as the Deputy President of the Economic and Social Council. This year's agenda includes some of the most alarming issues of our era that call for international cooperation, efficient and implementable measures and resolutions. This study guide provides some basic information on "Preventing the erosion of farmers' seeds sovereignty" and is going to assist you in your research about this issue. However, you should extend your research and gain a deeper understanding of the issue and your country's policy. Please do not hesitate to contact me (email: katerinaseni00@gmail.com) in case you need any type of assistance during your preparation for the conference. I am really looking forward to meeting you all!

Introduction

"Plant genetic resources are the biological basis of food security and, directly or indirectly, support the livelihoods of every person on Earth" (FAO, 1997)¹

"The seed has become the site and symbol of freedom in an age of manipulation and monopoly of its diversity. It plays the role of Gandhi's spinning wheel in this period of recolonization through free trade. The charkha (spinning wheel) became an important symbol of freedom because it was small; it could come alive as a sign of resistance and creativity in the smallest of huts and poorest of families." Vandana Shiva²

As shown in the above quotes, seeds are the heart and the start of agriculture, a vital source of our alimentation and a sign of culture. By carrying genetic information, they are the supporters of agriculture and thus, significantly contribute to the maintenance of diversity, food security and resilience. Additionally, their importance in the area of economics is apparent, since they are a commodity that can be traded globally. The expanded free

¹ "Sustainable Crop Production Intensification." *Plant Production and Protection Division: What Are Seed Systems*, www.fao.org/agriculture/crops/thematic-sitemap/theme/compendium/tools-guidelines/what-are-seed-systems/en/. Accessed 7 July 2017.

² Kloppenburg, Jack. "Impeding Dispossession, Enabling Repossession: Biological Open Source and the Recovery of Seed Sovereignty." *Journal of Agrarian Change*, vol. 10, no. 3, 2010

exchange of seeds among farmers has allowed a sharing of knowledge, traditions, customs and culture for countless generations. The wide saving of seeds for thousands of years by many generations of farmers globally have contributed to a high agro-biodiversity and crop varieties that have adapted to different environments and have shown resilience to various perils such as pests and diseases. However, several changes in the seed industry have caused a dramatic decrease in seed diversity worldwide. Although many countries still have a large plant genetic diversity, various threats have arisen due to the rapidly increasing use of hybrid and uniform high-yielding varieties, and mainly grown in monoculture (you can find the definition of these terms in the following section). Until the beginning of the 20th century seeds were primarily in the hands of farmers and public-sector plant breeders, but in the following decades several changes in the seed system have gradually shifted control of the seeds from them to large multinational chemical companies. Technological advances such as hybridization and genetic modification but also legal protections have contributed to this major change and have, therefore, not only given the opportunity for profit extraction from agriculture to the seed companies, but have also allowed a few large corporations to acquire many small seed companies. The hybrid seed development, which started in the 1930s, brought with it a robust private seed industry that had an immense capital at its disposal and gradually led to a consolidation of seed corporations. Then, in the 1980s patents for genetically engineered crops were granted by the international authorities and were followed by the regulation that in order to use a Genetically Modified (GM) plant either as seeds or as a basis for further breeding, others should pay license to the patent holder. Various similar regulations followed and all together accelerated the erosion of farmers' seeds sovereignty that caused serious problems such as significant biodiversity loss, violation of the farmers' rights and many other environmental and socioeconomic issues.



Definition of Key-Terms

Erosion

The process of deforming, losing initial shape or quality, deteriorating or getting destroyed

Sovereignty

The state or quality of having supreme power or authority³

³ "Sovereignty." *Dictionary.com*, Dictionary.com, www.dictionary.com/browse/sovereignty

Seed

The grains of the plant which are used for sowing.

Variety

A group of plants that have the same characteristics.

Hybrid seeds

The result of crossing two dissimilar varieties. These seeds will differ both in appearance and quality from their "parents" (they are often faster-growing, bigger, higher yielding and brighter) and this contributes to a greater selling point. However, crossing subsequent generations will not have the same desired results and thus instead of saving the seed, it is thrown away and another one is bought.

Genetically Modified Crops

Plants with a modified (altered) DNA through the process of genetic engineering, mainly in order to introduce a new trait to the plant that does not naturally exist.

Monocultures

The agricultural practice where a single plant, variety, crop etc. is produced or cultivated. Although this practice can increase the efficiency in planting and harvesting activities, it can also cause various dangers both for the environment and for the food security such as the buildup of pests and diseases.

Open-pollination

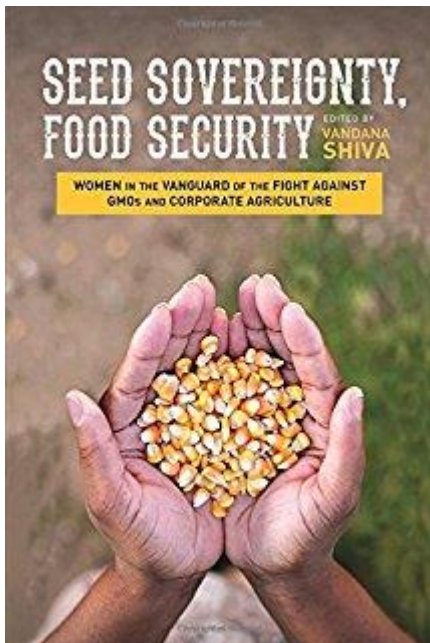
The process of plant pollination by natural ways and means.

Cross-pollination

The process of combining two plants' genetic material in order to produce a new variety with characteristics of the cross-pollinated ones.

Biodiversity

The variety and the ability of variety of life, that mainly refers to the ecosystems, the species and to a genetic level.



Agro -biodiversity (Agricultural Biodiversity)

A form of biodiversity that includes forms of life that are related to agriculture such as seeds, farm biodiversity, soil, fauna etc.

Loyalty

Commitment to a specific producer or company as far as the consumer behavior is concerned. This means that there is constant preference and purchases from them.

Germplasm

Living resources that contain genetic material, such as seeds, and are used in the process of plant breeding.

Intellectual Property Rights (IPR):

“Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her

creation for a certain period of time.”⁴

Background Information

The initial steps and causes for the erosion of seed’s sovereignty- The Privatization of Biodiversity

The farmers’ complete sovereignty over their seeds lasted until the 1930s because until then they had the opportunity to freely decide the amount and kind of seeds they were to plant or save and even where these seeds could be sold or exchanged as food or planting material (there was also significant influence by their culture or community). The largely open systems that were built and the widespread sharing of seeds resulted in a recombination of genetic material that later contributed to the production of agronomic resilient seeds. This seed diversity had been feeding generations of various cultures and communities and comprises the genetic foundation of our food production.

However, since the 1930s, mainly due to the development of hybridization and inbreeding, the farmers were separated from the effective reproduction of seeds and the private capital started gaining profit from the seed sector. The widespread erosion of seed sovereignty has come along with a rapid decrease of seed diversity and a monopole in the control of seed by very few multinational companies and giant corporations. The most crucial factors that have contributed to the systematic erosion of seed sovereignty globally are connected with a number of biological and socio-political changes.

In the field of biology, various advances in genetics and plant breeding that were mainly prevalent in the first half of the twentieth century led to the development of the modern seed industry. This type of industry offers seed varieties (such as hybrid seeds) that are very difficult for the farmers to save and replant the next season, and, therefore, they must buy new seed each year.

The socio-political field includes various legal changes that have furthered specific techniques such as the patenting and ‘protecting’ of germplasm through mechanisms such as plant breeders’ rights (PBR). Large seed companies managed to

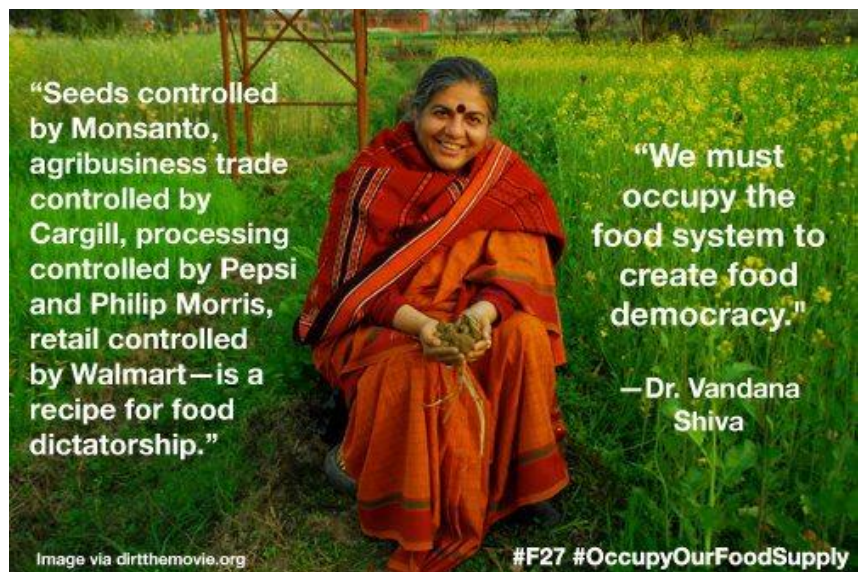
⁴ “WORLD TRADE ORGANIZATION.” *WTO | Intellectual Property (TRIPS) - What Are Intellectual Property Rights?*, www.wto.org/english/tratop_e/trips_e/intel1_e.htm Accessed 7 July 2017.

obtain “plant breeders’ rights” (PBR) legislation which gave them the opportunity for exclusive control over specific varieties or for being their exclusive marketer. As a result, in the competition between the seed companies and farmers, the monopoly of the former has managed to significantly incapacitate the latter in terms of seed and plant controlling. The dominant seed companies benefit from various national laws and international treaties (these are going to be thoroughly explained in another section) that support the harvesting of genetically engineered crops and “protect” their prevailing position in the market.

For instance, in many countries around the world, such as in India, the introduction of seed laws that enforce the compulsory registration of seeds hinders the small farmers from growing their own diversity due to high administrative and financial burdens entailed and thus, they become dependent on the large seed companies. This dependency can also result in an indebtedness.

The coexistence of the biological and political factors has facilitated the seeds’ transition to a commodity and the monopoly in their control. Based on alarming reports of 1995, during the UN’s setting up of the Plant Genetic Resources Conference in Leipzig, an estimated 75% of all agricultural biodiversity had disappeared as a result of the introduction of modern Varieties, mainly cultivated as monocultures⁵.

At the same time various political actions such as the introduction of the Trade Related Intellectual Property Rights Agreement of the World Trade Organization (WTO) facilitated the global spread of genetically modified varieties that can be patented. Additionally, the Convention on Biodiversity (CBD) and various national legislations have facilitated a global elaboration for the development of a set of intellectual property rights (IPRs) established in the “principle of exclusion” which means that seeds become a property and farmers are the ones



⁵ "WHAT IS HAPPENING TO AGROBIODIVERSITY?" *What Is Agrobiodiversity?* N.p., n.d. Web. 18 July 2017.

“excluded “ from freely participating in their market . The illegality of saving patented seeds, the expansion of unsustainable monocultures and thus, the contamination of many varieties, led to a significant biodiversity loss and to a great number of restrictions for the farmers’ rights concerning their seeds’ harvesting.

The farmers’ access to free seed planting has been further restricted by various market mechanisms and technologies. The “ Terminator Technologies”, for example, ensure the inability of the farmers to replant their harvested seed and of course facilitate the monopole in the control of the largest corporations over the seed market. (For further information about these mechanisms and useful data about the genetic restriction technologies please follow this link:

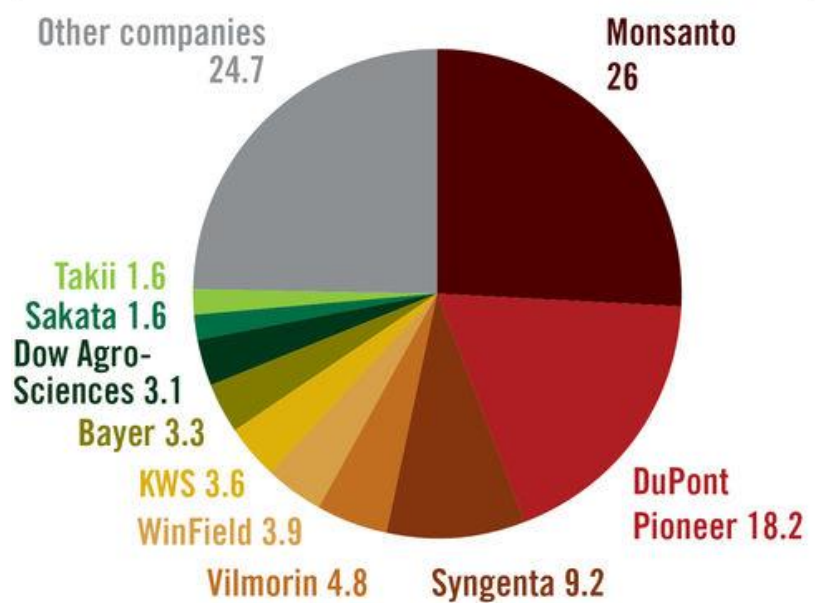
<https://remainingskeptical.wordpress.com/2012/08/09/terminator-seeds-human-rights-impact-multinational-corporations-and-responsibility/>)

This privatization of biodiversity is widely understood as a form of “biopiracy” and the access to the seeds is now regulated by a set of legal frameworks based on the principle of exclusion. It is apparent that the erosion of the farmers’ seeds sovereignty has accelerated.

Monsanto, DuPont and Syngenta: the top three seed Companies

The seed industry and market are highly concentrated, with the ten largest seed corporations controlling approximately three quarters of the commercial seed market. Monsanto, DuPont Pioneer and Syngenta comprise the top three seed companies which represent approximately 65 percent, more than a half, of the seed market. At the same time, especially alarming are the numbers of the genetically modified seeds sold in a year. According to Greenpeace estimations, Monsanto sold 90 percent of genetically modified seeds globally. This concentrated control and monopole of the commercial

Highly concentrated seed market



Source: ETC Group (2013)

seed sector led to a significant loss of genetic diversity since the companies decided to sell mainly the most profitable crops and varieties. These companies, the so called "Gene Giants" use intellectual property laws in order to commodify the world's planting material and through this strategy they have managed to significantly control germplasm, maximize their profits, undermine and eliminate the farmers' rights for growing, saving and exchanging their seed. Moreover, some of them (mainly Monsanto) pressurize states to sign agreements for the proliferation of Genetically Modified Seeds, for the obtaining of the intellectual property rights on the genetic resources or research carried out on seeds and generally for the expansion of their market and the maximizing of their profit (For further Information concerning the "Gene Giants" please visit this link: <http://www.gmwatch.org/en/gm-firms/10558-the-worlds-top-ten-seed-companies-who-owns-nature>)

Seed laws, certification, and standardization:

The modernization of agriculture and the privatization of biodiversity brought with them the establishment of standards and standardization procedures that subsequently constituted laws that had a significant impact on the practices of the seed industry. The United States and the nations of Western Europe have the oldest legal frameworks for the regulation of germplasm. In general, two different types of laws that have furthered the commodification of planting material and have contributed to the erosion of seed sovereignty worldwide have been globally applied. These are the following:

1. Intellectual Property Rights (IPR) laws

These laws can be applied to germplasm. They mainly focus on the authorization and on legitimizing of the seeds' privatization through various mechanisms that include: Plant Breeders Rights (PBR), patent laws, plant variety protection acts or 'sui generis systems'.

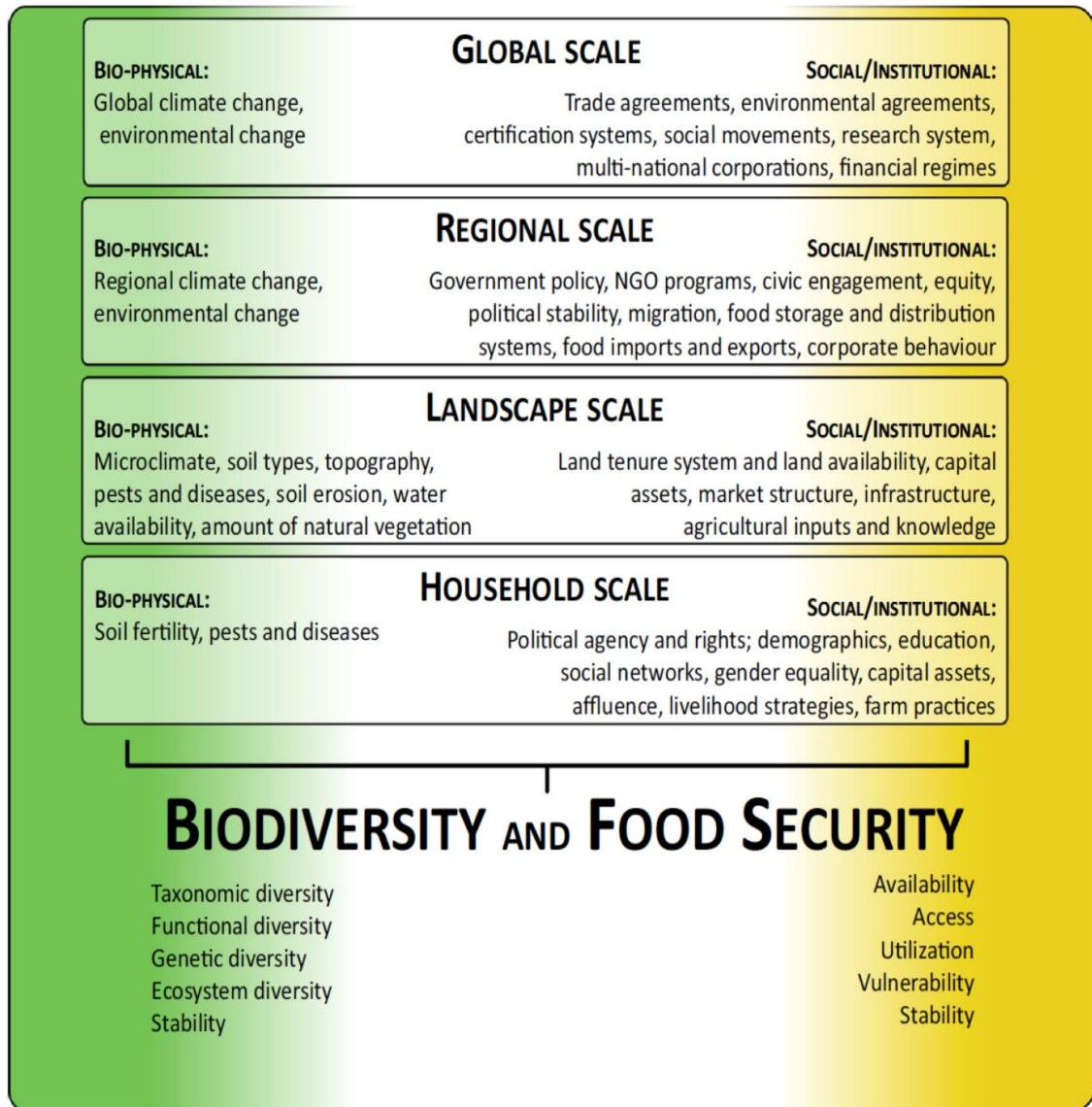
2. Non-IPR seed laws

These laws bind breeders, seed companies and farmers to the registration and certification of seeds according to pre-established standards. Although this aims at the regulation of the production, marketing, use, identity and quality of the seeds, it also caters to marketing or exchange purposes

More analytically, laws related to Plant Breeders Rights (PBR) are highly significant for the private and public sector of the seed industry and are based on the Convention of the International Union for the protection of New Plant Varieties (UPOV) which sets specific standards and is going to be explained in another section. Plant Breeders Rights require the breeders' authorization before offering the variety for market purposes.

Although the intentions of certification and standardization might be good, several negative consequences that are related to the farmers' livelihoods, the conservation of biodiversity and seed sovereignty arise. Specifically, the illegality of seed saving and the criminalization of such "illegal" seeds has caused various cases of instability and threats in rural areas. The small-scale farmers can no longer enjoy even a relative autonomy, since this fundamental value is totally undermined. Additionally, these laws promote the dramatic concentration of control over seed for the existing seed industry and their products and thus the history, culture and tradition that were being preserved by the informal processes of the farmers have begun to erode.

The following picture includes information about how biodiversity, food security and thus, farmers' seeds sovereignty provide significant benefits globally:



Major Countries and Organizations Involved

European Union

In the majority of the countries of the European Union the erosion of farmers' seeds sovereignty is a crucial and alarming issue, since there is a widespread circulation of genetically modified seeds in the market, several EU proposals are considered to threaten seed sovereignty and the European farmers' rights are under threat. Although several campaigns⁶ and plans for eliminating this phenomenon have been organized, a lot more has to be done in order to change the already existing regulations and policies that support and

⁶ *Sowing the Future*. N.p., n.d. Web. 18 July 2017.
<http://www.seed-sovereignty.org/EN/>

protect the privatization of biodiversity in the European market.

United States of America

In the United States of America seed sovereignty is a complex issue as well. There is a wide violation of the farmers' rights since large companies have managed to dominate the market. The public's access to local varieties has been decreasing since 1980, when a Supreme Court ruling supported that a life form should be patented. The US "agri-terrorism" has given extreme power to the large seed corporations and has significantly undermined the farmers' livelihoods.

Nepal

Nepal is a country with a wide agricultural biodiversity and has managed to preserve its seed, culture and traditions for many years. It is estimated that approximately 95% of the country's seeds were open pollinated variety until a decade ago, but the Nepalese self-sufficient farming has started to turn into a commercial agriculture. The introduction of modern cultivars and the using of hybrid varieties by farmers for higher yield purposes have started to threaten the country's diversity of planting material. Despite several public oppositions against this development the erosion of farmers' seeds has started taking place. Nepal clearly depicts that there is still enough space for the intrusion of the modern seed industry, despite of an efficient self-sufficient national farming system.

Africa

As far as the seed sovereignty in Africa is concerned, numerous private and public interventions threaten the security of the African seed systems with an alarming danger especially in sub-Saharan Africa. Civil society groups try to support their farming systems, however there is evidence of seed erosion in many African countries. Another danger for the continent is the possible Bayer-Monsanto merger which would actually cause international harm.

World Trade Organization (WTO)

The World Trade Organization is an international organization responsible for the rules of trade between the nations. Its aim is to assist in the business of trade bodies globally and its agreements are signed and ratified after negotiations by the different nations. Concerning the issue of seed sovereignty, the WTO was occupied with several negotiations and relevant international agreements that are generally considered to threaten the international food security and diversity conservation. And this could be justified by the fact that the organizations' rules and agreements are partly controlled by corporations (for example the Traded Related Intellectual Property Rights Agreement was written by giant seed companies.) Additionally, there have been several international callings for the revision of specific agreements of the organization due to inaccuracies or violation of the public's rights.

Food and Agriculture Organization of the United Nations (FAO)

This UNs organization aims at achieving food security, elimination of hunger and poverty, sustainable management and utilization of natural and genetic resources and takes action for the benefit of present and future generations.

Timeline of Events

Date	Description of event
1930	The start of the hybrid seed industry development
1980	Patents for genetically engineered crops were granted by the international authorities
1961	Convention of the International Union for the Protection of New Plant Varieties (UPOV)
29 th of December 1993	Convention on Biological Diversity
1 January 1995	Traded Related Intellectual Property Rights Agreement TRIPS
3 November 2001	International Treaty on Plant Genetic Resources for Food and Agriculture

Relevant UN Treaties, Resolutions and Events

Convention on Biological Diversity (CBD-<https://www.cbd.int/doc/legal/cbd-en.pdf>)

This Convention came into force on 29th of December 1993 and is an international legally binding treaty that aims at “the conservation and sustainable use of biodiversity and a fair and equitable sharing of the benefits arising from the use of genetic resources. Its overall objective is to encourage actions, which will lead to a sustainable future.”⁷

International Treaty on Plant Genetic Resources for Food and Agriculture
(<http://www.ukabc.org/ITPGRRe.pdf>)

Adopted by the Thirty-First Session of the Conference of the Food and Agriculture Organization of the United Nations on 3rd November 2001 this Treaty’s objectives are in harmony with the Convention on Biological Diversity for sustainable agriculture and food security. It supports the farmers’ contribution to the production of the genetic material that is the basis of the world’s food and aims at ‘; establishing a global system to provide farmers, plant breeders and scientists with access to plant genetic materials, ensuring that recipients share benefits they derive from the use of these genetic materials with the countries where they have been originated.’⁸

Convention of the International Union for the Protection of New Plant Varieties
(UPOV)

This Convention was established in 1961 and aims at” providing and promoting an effective system of plant variety protection for encouraging the development of new varieties of plants for the benefit of the society.”⁹ Many countries have opted for basing their plant variety protection (PVP) system on this Convention for the acceleration of an effective and globally recognized system. Specifically it establishes the guidelines by which a breeder is able to protect “new plant varieties” in relation to the “breeders’ right”. This right implicates that the breeder’s authorization is essential for propagating the variety (which should comply with specific criteria-The DUS criteria) to the market.

Traded Related Intellectual Property Rights Agreement (TRIPS-
https://www.wto.org/english/docs_e/legal_e/27-trips.pdf)

The TRIPS Agreement (into effect on 1 January 1995) is considered to be “the most comprehensive multilateral agreement on intellectual property” to date and covers

⁷ “Biological Diversity, Nature, Tourism, Sustainable, Ecology, Natural Resources, Convention on Biodiversity.” *United Nations*, United Nations, www.un.org/en/events/biodiversityday/convention.shtml. Accessed 7 July 2017.

⁸ “Overview | [Www.fao.org](http://www.fao.org).” *Overview | FAO | Food and Agriculture Organization of the United Nations*, www.fao.org/plant-treaty/overview/en/. Accessed 7 July 2017.

⁹ Upov. “Expansion of UPOV’s PBR Application Tool (EAF).” *International Union for the Protection of New Varieties of Plants (UPOV)*, 3 July 2017, www.upov.int/portal/index.html.en. Accessed 7 July 2017.

the following issues “how basic principles of the trading system and other international intellectual property agreements should be applied, how to give adequate protection to intellectual property rights, how countries should enforce those rights adequately in their own territories, how to settle disputes on intellectual property between members of the WTO, special transitional arrangements during the period when the new system is being introduced.”¹⁰

Previous Attempts to solve the Issue

Several efforts by the international community have been made for the prevention of farmers’ seeds sovereignty, with their main goal being the conservation of biodiversity and the protection of farmers’ rights.

First of all, several negotiations, the creation of International Treaties and Conventions and scientific research have attempted to take action for the protection of biodiversity and small farmers from being totally exposed to the system of the modern seed industry.

Secondly, several governments such as India have tried to support the farmers of the country in international negotiations and debates. Additionally, through national legislation, they have managed to merely restrict the influence of the big seed companies or even the circulation of Genetically Modified (GM) planting material in the national market.

Another significant contribution to solving the issue is the great efforts of several national and international movements such as Navdanya, a “movement for earth democracy” which is a seed saving movement that saves and distributes seeds to farmers of different countries ,especially after disasters ,such as the earthquake disaster in Nepal . They have also organized several campaigns for raising awareness about the violation of the farmers’ rights and the environmental disasters of the seed’s sovereignty erosion and have many times challenged India’s “biopiracy” in an effort to support their rights, their local knowledge and diversity.

Lastly, a very powerful way of eliminating the erosion is the voice of the farmers and the public. Demonstrations, campaigns and “fightbacks” against the intrusions of the modern seed industry in their land and business have raised awareness and have sparked, above all, a huge debate concerning the “ideal” policy or seed system for

¹⁰ “WORLD TRADE ORGANIZATION.” *WTO | Understanding the WTO - Intellectual Property: Protection and Enforcement*, www.wto.org/english/thewto/whatis/tif/whatis.htm#ipr, accessed July 2, 2017.

SEED FREEDOM

the eradication of farmers' seeds sovereignty

Possible Solutions

The erosion of farmers' seeds sovereignty is an issue with a worldwide magnitude and therefore, international cooperation is essential in order to come up with efficient and implementable measures and solutions. In order to come up with such ideas, the delegates should examine every aspect of the issue, since their resolutions should provide effective measures for preventing the erosion of farmer's seeds sovereignty, while at the same time they should consider the protection of the farmers' rights and the conservation of biodiversity, culture and food security.

First of all, the international community should revise and improve already existing laws or other official domestic and international documents that imply or aim at dispossessing the farmers of their seeds, support the privatization of biodiversity and germplasm or outlaw seed saving. This way, the local and national seed systems will become stronger and many more farmers will enjoy a free participation in the seed and food market. However, it is of utmost importance, that various types of controlling the seeds' quality be developed and then, these two measures would result in a balanced seed market with direct access to "natural" seeds and at the same time equal quality control.

The certification, standardization and modification of seeds are not the main factors that have contributed to the erosion of seeds' sovereignty. The way that these ideas are implemented is what causes the major part of the problem. Farmers should not be obliged to buy seeds for each season or to express loyalty to specific seed companies. Instead, a relative autonomy of the farmer is a scenario that could include both chances for prosperity and development for the farmers and the necessary control over the seeds' standards.

All these factors should be examined in order to come up with an ideal legal framework and policy that will support a more direct access to the seed market.

The modern standardized agriculture should start recognizing that genetic resources such as seeds are linked with cultural knowledge, history and tradition and should be considered as a broadly social product and its sharing would benefit everyone. Therefore, it is urgent to protect the farmers' seeds from the monopolists' appropriation and ensure that they will be used freely and cooperatively to nourish humanity.

In order for all these measures to take place, the international community should ensure transparency in every agricultural or commercial process so as to accelerate a democratic



and efficient seed development.

Lastly, we should not ignore the role of public awareness, information and education for the protection of the seeds' sovereignty. By raising awareness and informing everyone about the causes, consequences and threats that such an issue entails, more and more people would be engaged in the issue and offer any type of assistance.

It is highly significant to combat the erosion of the farmers' seeds sovereignty for the sake of the environment and mankind. Seeds are linked with innumerable aspects of a nation, including economy, culture, history, and ethic and if we manage to replace their modern role as a commodity or private property with a means of achieving natural diversity and a human rights based prosperity we will gradually solve some of the most crucial problems in the world, including poverty and environmental disaster.

Through achieving seed freedom we can achieve international prosperity and a respect towards our nature.

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