International Journal of Modern Agriculture, Volume 9, No.4, 2020
ISSN: 2305-7246

PREDICAMENT OF IMPLEMENTATION OF INTERNATIONAL SYSTEM OF PLANT VARIETY PROTECTION IN INDIA: A COMPARATIVE STUDY

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Abstract

India has been introduced to Intellectual Property Rights (IPR) from the time of the British rule. However, IPR laws were gradient internationally which caused trade tariffs to sky rocket and hindered the process of globalization. Developing countries such as India were forced to use a protectionist form of economy to protect local innovations and pave their growth. India became a signatory to the TRIPS in 1995 and which states that all member states are required to protect plant variety through patents or a 'sui generis' system. India formulated the Protection of Plant Variety and Farmer Rights Act, 2001 (PPV&FR) for this purpose.

The TRIPS Agreement also impelled international conventions such as the Union of the Protection of New Varieties of Plants (UPOV) which was designed to promote genetically uniform industrial agriculture and was in compliance with WTO's agenda of trade maximisation. The convention provides a monopoly of rights to breeders and excludes the farmers.Developedcountries gladly accepted the UPOV regime, but for developing nations it was not the most favourable system to be implemented.

Through this paper authors are going to analyse the conflict between UPOV and implementation of farmer rights vis-à-vis variance in the requirement of Intellectual Property laws by developed and developing nations and the need to achieve a balance between Intellectual Property Rights and farmer's right, furthermore, we will be looking into the impact of implementation of Seed Bill in India, under the light of the same.

Keywords: Farmer's Rights, Plant Varieties, PVP&FR, Seed bill, TRIPS, UPOV.

Introduction

In 1955, WTO replaced GATT and became the apex international organization to set minimum standards related to trade and created a platform where trade related disputes could be settled [1]. However, developing countries including India, protested that the guidelines set by WTO were only in the best interest of the Group of Seven (G7) consisting of the seven major developed countries: France, Italy, Canada, United Kingdom, United States, Germany and Japan [2], Further, all the member states of WTO were to be signatories of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which lays down minimum standards to be followed by countries while formulating their IPR. However, critics have raised concern worldwide regarding some of the principles laid down in this agreement. It was criticized for being inclined towards advancing developed countries on the expense of the developing nations. Developing nations protested that the legal standards of IPR set by the agreement were too high for their countries and evidence further showed that non-stringent IPR protection was required in developing countries to stimulate development and poverty alleviation. India falling within the parameters of a 'developing nation' and also being a member of the TRIPS agreement is at a high risk of being exploited [3].

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In the final phase of theUruguay Round, negotiations were introduced to include agriculture within the ambit of IPR [4] Hence, Article 27(b) of the TRIPS agreement states that all member states are required to protect plant variety through patents or a 'sui generis' system. However, it failed to specify what a 'sui generis' system is and has left it open to interpretation. India formulated the Protection of Plant Variety and Farmer Rights Act, 2001 (PPV&FR) as its sui generis system of IPR for protection of plant varieties. This Act provides establishment for effective system for protection of plant varieties, the rights of farmers and the plant breeders. It furthermore, recognizes and protects the rights of farmers in respect to their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties [5]. According to the Food and Agriculture Organisation (FAO) of the UN, in India, 70% of the Indian rural population still depends on agriculture as a primary mode of livelihood; hence it is very important for the government to formulate farmer friendly IPR policies [6].

On the other end of the spectrum, the TRIPS Agreement also gave birth to international conventions such as the Union of the Protection of New Varieties of Plants Convention (UPOV Convention) which was designed to promote genetically uniform industrial agriculture and was in compliance with WTO's agenda of trade maximisation. However, the convention provides a monopoly of rights to breeders and excludes the farmers [7]. The TRIPS Agreement, favours the UPOV regime of plant variety protection. Developedcountries gladly accepted the UPOV regime, but developing nations are being pressurised into adopting the same due to the need of increasing trade and improving the economy [8].

We understand that most plants grow only in a specific geographical location and are climate specific. For a plant to be able to adapt in conditions not habitual to it, farmers need to select a hybrid plant which is capable of cultivation in a different geographic setting from within the species which is known as 'plant variety'. Through the TRIPS Agreement, 1995, protection of plant variety was mandatory upon all the member states, through a patent procedure or a sui generis system. However, the agreement did not lay down specific guidelines that needed to be followed by developing or developed nations. The only condition stipulated was that all developed member states must create laws in accordance with the agreement by 2000 whereas, the developing member states had to comply by 2005.

With the leisure of interpretation, the developed countries framed laws to empower breeder rights and strengthen plant variety governance. On the other hand, developing nations wanted to frame laws in a manner to defend both breeders and farmer's rights while also strengthening indigenous trade and market structure.

The developed nations created Union for the Protection of New Varieties of Plants which provided for a system of plant variety protection that came into being with the adoption of the International Convention for the Protection of New Varieties of Plants by a Diplomatic Conference in Paris on December 2, 1961. The UPOV Convention provides the basis for members to encourage plant breeding by granting breeders of new plant varieties an intellectual property right: the breeder's right [9]. Under this convention the breeder gets full commercial control over the reproductive material. This means that farmers growingProtected Varieties of Plants(PVP) are prohibited from selling the seeds they harvest from the crop, and, increasingly in many UPOV member countries, from saving and exchanging seeds on a non-commercial basis. It also means that farmers pay royalties on every purchase of seeds. Furthermore, only licensed growers can multiply the variety for sale. Under the terms of the 1978 Act, the UPOV made two exceptions to the commercial monopoly – 1) farmers are allowed to save seed for their own use; 2) breeders are allowed to freely use PVP varieties to develop newer ones. These exemptions are restricted in the 1991 Act [10].

The UPOV convention was amended three times, in: 1972, 1978 and 1991.The 1991 Convention strictly applies protection for all genera and species, the 1961/1972 Convention is centred around protecting the genera and species provided in "the list annexed to the Convention" [11]. Furthermore,the 1961/72 & 78 conventions only stated provisions protecting breeder rights, the 1991 convention outlined exemptions to breeder rights. Also, all

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ISSN: 2305-7246

the revisions to the convention required domination as a mandatory requisite for the grant of breeder rights. The UPOV'78 provides for more balance between breeder and producer rights whereas UPOV'91 is more breeder centric and exempts "farmer privileges"[12].

Although many conventions such as the Convention of Biological Diversity, 1992 (which promotes sustainable development) and The International Treaty on Plant Genetic Resources for Food and Agriculture,(also known as ITPGRFA, International Seed Treaty or Plant Treaty) are in contravention of the UPOV convention, the UPOV convention has 72 member states. In our opinion, this is due to the heavy competition that is created on the international platform that gives importance to plant patents for securing investments. Although the TRIPS agreement does not mandate the UPOV convention, it promotes and encourages the same to achieve highest trade benefits and R&D investments. In the next segment, we talk about the impact the UPOV regime has had on some of its member states.

Impact of the UPOV regimeover its member states

The UPOV standards of IPR work differently in developed countries because most of the seed producers are multinational companies, who through the process of merging and acquiring smaller companies have monopolized seed production and distribution. However, this process cannot be followed in developing nations because there are no small scale companies. The seed production is dominated by the farmers and the only way to monopolize it would be through eliminating their rights completely [13] Let us understand implementation and the effect of UPOV convention on various developed and developing nations.

Developed Nations:

i) Chile

It has been seen that strong IP exporter countries set high standards of IPR to protect their material, however, weaker IP importer countries do not have such stringent laws in place and are denied the opportunity of trade, enter into treaties and receive investments. To overcome this gap, weaker IP countries implement laws in accordance with international conventions in haste and such was the case with Chile [14].. Chile was already a signatory to the UPOV'78 Convention, however when it entered into free trade this was brought to question. Firstly, in 2004 and 2003, respectively both the US and European Union demanded that the national laws of Chile be in compliance with the TRIPS Agreement. After that, in 2009 when Chile tried to enter into a Free Trade Agreement (FTA) with Japan, it required that both parties be signatory to the UPOV'91 Convention. When Chile did not comply with this, the USA and Japan threatened to terminate the FTAs. Hence, the then president of Chile Mechelle Bachelet introduced a bill in the Congress in January 2009, but due to heavy criticism the same was not passed. The bill was introduced for a second time in May the same year and received accent from the Congress and two years later the senate passed it as the 'Protection of Breeder Law' [15].

The Law 19.342 [16]stated that the right of breeders shall not be deemed violated by any use made by a farmer, on his own farm, of the harvest from properly acquired reproductive material. On no occasion, however, may such material be advertised or transferred by any legal title as seed. It allows farmers to save and use harvested material under certain quantities (not exceed the original acquired amount) on their own holding and sell to the third parties for only final use or consumption purpose [17]. But, the traditional grain dealer model in Chile is not included in this exemption because grain dealers are not belonging to the final use group or consumption group.

Chile broke into mayhem of protests and was recorded in over 15 cities. The law faced a great deal of pushback from both the rural population who stated that this would take over their indigenous practices while restricting ownership and retention over seed and the senate. The law gave rise to a series of political turmoil with ripples extending into the next 3 years [18].

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ii) **United States of America**

In developing countries, the primary aim of agriculture is to provide food security. Food security includes the availability of food which is accessible to the people at large at affordable prices. The problem of food security is not pressing in developed countries, as it is in the developing countries. UPOV system of plant protection, allows breeders to patent their produce. If such a regime is implemented in developing nations, where the farmers are the main cultivators and developers of new variety of seeds, they will not be able to register and receive a patent due to their financial incapability. Under such circumstances, major seed companies from the developed nations will invariably end up patenting agricultural produce produced in developing countries (such as India). This will lead to hike in prices of seeds. Furthermore, in case of crop failure, farmers will be bearing losses and as opposed to the seed companies; statistics show that in 2017-2018 a minimum of 10 farmers have committed suicide due to crop failure. To ensure food security, totalitarianism should be eradicated from the seed industry [19].

Developed countries have a high industrial and human development index along with being technologically advance. This environment is conducive for advancements in all fields, including agriculture. Developed countries such as US and Japan have better equipment for agriculture and entered the stream of plant gene mutation long before developing countries. The US based company Monsanto is the quintessential example of this.

Founded in 1901 Monsanto was one of the first companies to apply biotechnology to agriculture, one of the first four groups to introduce genes into plant and became a major producer of genetically engineered crops.

Since then, Mansanto has taken over both big and small crop industries. Robert Farley who was the Executive Vice President and the Chief Technology officer at Mansanto stated "what you're seeing is not just a consolidation of seed companies; it's really a consolidation of the food chain."[20] By 1997, Monsanto had acquired companies such as Agracetus (for 150 million dollars), Kalb (for 158 million dollars), Asgrow seed (for 240 million dollars) and even Holden (for 102 billion dollars) and centralized the seed authority in the United States within them.

To exploit their privilege under the UPOV regime, Mansanto introduced the "Round-Up-Ready Gene Agreement" for Round-Up-ready soybean in the USA. Under this agreement, the selling and supply of soybean seed or any product derived from the soybean patented by Mansanto is barred. Furthermore, a fee of $5 is to be collected on every pound of soybean a 'technology fee' and this fee is to be collected separate from the price of seeds and royalty. If in case of violation of this clause, the violator (farmer) is required to pay hundred times the damages. In addition, Mansanto has made it a point to free itself of all liability in case of crop failure and inadequate quality of seeds. A liability clause has not been added in the Round-Up-Ready Gene Agreement [21].

Adding to that Asgrow, a seed company which was purchased by Mansanto in 1996 is responsible for prohibition of farmer to farmer exchange of seeds [22].'Brown bagging' (which is when farmers save their seeds and sell it to other farmers) was an important source of income for farmers. Defendants Dennis and Becky Winterboer had been brown bagging since 1987. However, when Asgrow patented the soybean seed, the Winterboers were prohibited from doing the same. When the matter was presented before the Supreme Court, it was ruled against the defendants. Subsequently, The Plant Variety Act was amended in the US and farmer to farmer trading of seeds was made illegal [23].

iii) Germany

Monsanto, in 2018 merged with another German based seed company called Bayer with the hope of detaching itself from its controversial past. Monsanto, after the merger has decided to produce under the company name 'Bayer' and add its own products to its itinerary. However, critiques say that only letting go of the name would

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ISSN: 2305-7246

not be enough to reinstate previously severed trade relations and a thorough policy re-examination would be required.

Germany, on the other hand, has not been an activist for farmer rights either. The German Seed Act, its self prohibits farmers from producing their own seeds. [24].In Bavaria, Germany, a farmer named Josef Albrecht developed his own variety of wheat seeds because he was not satisfied with the seeds that were commercially available. The seeds developed by Josef Albrecht were far better than the ones commercially available and hence famers from neighbouring farms also started using the seeds produced by him. When the government of Bavaria came to know about these seeds, they fined farmer Josef for dealing with uncertified seeds. Farmer Josef thought it was his right as an organic farmer to produce and yield his own seeds. In 1996, farmer Josef initiated non-co-operation movement against breeder biased seed legislations in the conference on Plant Genetic Resources held in Leipzig. This paved way for the democracy movement against the German Democratic Republic (GDR)[25].

The next part of the paper will talk specifically about implementation of plant variety protection in India and the impact of the same on the rights of farmers.

Developing Nations:

i) <u>China</u>

China, a developing country who is a signatory to the UPOV'78 had received international pressure to formulate national laws compatible with the UPOV'91 Convention. However, the Chinese government had stated that they are undergoing a transitional phase and would not want to take any decisions in haste and wind up in a situation like Chile. China had made it clear that despite being a signatory, they will formulate laws keeping in mind the practical and cultural knowledge the farmers bring to the production of material. Following that, in 2015, China introduced a Seed Law, compatible with the standards set by UPOV'91 Convention while also securing farmer rights[26].

If we draw comparison between Article 29 of the UPOV'91 Convention and Article 19 of the Chinese Seed Act, we see that while the UPOV'91 restricts farmers from holding and use/sale of seeds, Article 19 of the Seed Act does not restrict sale of seeds by farmers only for commercial purpose[27]. Chinese Seed Law has no special catalogue prescribed under 'farmer privileges'. While this may seem to be in the interest of securing farmer rights, the Shareholders in the Chinese seed sector have seriously criticized this exemption. It is in the best interest of the Shareholders that a new variety of plant be protected. If a special catalogue is not prescribed, farmers may be under the impression that there are no restrictions on their privileges. Furthermore, the Seed Act does not define and classify farmers [28].

The situation of China when compared with that of Chile it is seen that half a billion people in China depend on agriculture as their primary livelihood (like in Chile) and moreover, the need of farmers for the production of food cannot be ignored (especially in developing countries). WhenChile implemented the PVP standards set by the international community, it cut out the small sector-holders completely leading to stagnancy in production and annihilation of farmer rights [29].

ii) <u>Kenya</u>

Kenya is another developing country forced to comply with the UPOV'91 standards. Kenya thrives on small-scale production and distribution of seeds. Sub-Saharan Kenya constitutes upto 80% of the farms in Africa and 90% of the food produce and the farm saved seed amount to of the seed requirement and hence it is very important for Kenya to protect its farmer's privileges [30].

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The international obligations which are determined to uplift breeder rights, pose as a threat to the citizens of Kenya because breeders do not form a coherent whole. Kenya was baited into ratifying the UPOV'61 Convention through the idea of commercializing the private sector and thus being able to provide better resources for its citizens [31]. However, gradually the UPOV Convention was amended and the balance between breeder and farmer rights became completely lopsided. The UPOV'91 Convention completely eliminated the farmer privileges. Moreover, through the 2010 Constitution of Kenya, the international conventions shall be enforceable even if there are no similar regional laws [32].

The direct implementation of the UPOV91 Convention takes away the right of farmers to seed sharing which is essential in achieving food security and economic prosperity in developing countries. It also increases the price of seeds making access to them difficult [33].

Treaties and conventions such as The International Undertaking on Plant Genetic Resources,1983, The 1992 Convention on Biological Diversity and the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture which try to promote sustainable development and sovereignty of state over natural resources. However, these international conventions do not have binding power and act only as a 'soft law'.

The UPOV'91 Convention is against the principles of the 2010 Constitution of Kenya which safeguards the right of its citizens under Article 43 against hunger and through Article 69, the right to equitable distribution [34, 35]

iii) India

If the UPOV regime was to be implemented in India, which solely protects breeder rights, large companies such as Monsanto (now taken over by Bayer) will dominate seed industry and put indigenous farmers out of work. Furthermore, since famer rights are not protected under the UPOV regime, farmers will be left without remedy in case of crop failure. In 2000, when Bt. Cotton seeds were purchased by farmers in Andhra Pradesh from Monsanto, the seeds turned out to be of low quality, leading to crop failure and leaving the farmers in high debt. Innumerable farmers committed suicide in Andhra Pradesh in the year 2000-2001 due to failure of crop. The government banned seed supply from Monsanto and even demanded for damages worth 4.5 crores. However, in 2005 when the issue was taken before the International Food and Policy Research Institute, they concluded that farmer suicides were not a result of BT Cotton failure, but was a general pattern in India [36]. This decision was criticised by many critiques. The US based company Monsanto, has faced allegation from both China and Brazil (both developing nations) for trying to dominate and take over their soy and corn markets respectively [37].

In India, if farmer to farmer seed trading is prohibited by law, there is grave danger to our agricultural industry ofcollapsing. Seeds are developed in India, through ancestral knowledge that the farmer community have safeguarded and carried forward for generations. This knowledge is not codified, but oral. If the rights of farmers are not safeguarded through IPR laws, this traditional knowledge unique to each geographical region may be lost forever [38].

Protection of Plant Varieties and Farmer's Rights Act, 2000 (PVP&FR)

In India, like any other developing country, agriculture formulates one of the main sources of livelihood. In this research paper, we have highlighted the derogatory impact of international high standards of IPR and pressure from developed nations to comply with the same. India along with a few other countries such as Malaysia and Thailand have not yet given in to the harsh standards set by UPOV91 and instead created legislation that strikes balance between breeder rights and farmer rights [39].

The farmer rights and seed rights, in India are governed by the Protection of Plant Variety and Farmer Rights Act, 2001 (PVP&FR) and the Seed Act, 1966 which was amended in 1972. Further there are the Essential Commodities Act,1955 and the Seed Rules both having been amended numerous times to tackle new problems as they present themselves.

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ISSN: 2305-7246

The PVP&FR Act, is a *sui generis* system, which does not allow patenting of plants, but gives rights to individuals over plant varieties, similar to that of patents. Keeping in mind the integration of farmers with production of food, and the knowledge they have to offer, India introduced this Act. The Act recognizes the right of farmers to sow, re-sow, harvest, sell, etc. [40].

Section 39 (iv) of the PVP&FR Act reads: "a farmer shall be deemed to be entitled to save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled before the coming into force of this Act" [41].

It furthermore gives them the right to register a new variety, putting them to power with the breeders. But, most importantly, by recognizing the rights of the farmer, it gives them an international platform to claim and fight for these rights as well [42]. The Act further gives clearance to farmers who were unaware of their rights.

This Act is a landmark legislation and has helped farmers secure their rights in the recent PepsiCo case of 2019. In April 2019, PepsiCosued 4 Gujarat based farmed for 1.5 crores stating that they took part in illegal sale of F-5 potatoes which were registered with PepsiCo for the manufacture of Lays Chips. Farmer groups called for boycott around the nation, both BJP and Congress leaders took to the streets to show disagreement.

It seemed like the multinational company had gotten an early win, when the High Court of Allahabad passed an ex-parte injunction order against the farmers [43].However, under section 39 (iv) of the PVP&FR Act, the farmer has the right to sow, sell, harvest any seed/produce that they have developed a long as the seeds sold are not branded. The government, upholding the rights of the farmers urged PepsiCo to withdraw its case and suggested a long term amicable solution to the problem.Through the recognition of rights of farmer in the sui generis legislation of PVP&FR Act, the farmers were able to evade exploitation.To further comprehend the situation in India with respect to seed, the Indian Seed Bill is discussed in the next section.

The Seed Bill

The Seed Act, 1966 was implemented in India with the aim to create a common legal platform for registration. The act was amended in 1972 and alterations were made to the definition of seed and provisions were laid down for the formation of a central Certificate Committee [44].

However, in 2002, when Bt Cotton was registered, which is a GMO (genetically mutated organism) that produces its own insecticide against bollworm, the demand for this cotton seed increased and hence, India had to formulate new laws to regulate royalty. For this purpose, a Seed Amendment Bill,2004 was introduced and it aimed to facilitate production and supply of seeds of quality and for matters connected therewith. The Bill further proposed that farmers shall not be allowed to sell under a brand name. It also mandated every seed-gardener, dealer or manufacturer to be registered with the government. It intended to further the agenda of WTO's agreement to monopolise the seed sector. Finally, it does not make any provisions for compensation to farmers. 60% of the Indian economy depends upon agriculture, if the country has a bad harvest, it could affect the GDP of the entire country. Furthermore, we have already witnessed large suicide rate of farmers due to crop failure and debt burden. The bill also lays down 'minimum standard' required to be met by farmer's seed before they can be registered [45].

A Parliamentary Standing Committee on Agriculture was set in place to offer amendments on the 2004 bill. Upon receiving proposed amendments, and making valuable changes, the Bill was reintroduced in 2010; however, this too, was rejected.

Nonetheless, another Bill was introduced in 2011 trying tenaciously to lay down domestic laws that comply with international standards. In this Bill, all varieties of seeds had to be compulsorily registered and meet

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ISSN: 2305-7246

minimum standards. This again faced pushback from farmers on the grounds that the seed sovereignty of the agricultural community is threatened and was not passed [46].

Finally, the Seed Bill, 2019 was introduced in May last year. The bill aimed at globalisation of the Indian seed sector, stating that laws need to be created in compliance with the TRIPS Agreement. Although not explicitly mentioned, TRIPS furthers the global standards laid down by the UPOV Convention and India, deems to comply with them to further trade opportunities and FTAs [47].

But through the empirical study of how such standards have affected developing countries and even developed countries (specially farmers), we understand that if India was to ratify the UPOV Convention standards like Chile and Kenya, it will be at a threat of losing indigenous small-scale setups that are important for distribution and production of seeds. Unlike in developed countries, seed mutation does not happen in large seed industries in the developing countries. Farmers play a crucial role in expanding seed variety and it is importance to protect the knowledge they possess for cultivation of new variety of seeds.

Moreover, the conventions do not provide for compensation for farmers and hence, India should set a strong mechanism to check the quality of seeds and put in place regulations for payment of compensation. Farmers in India have always demanded protection against crop failure due to substandard seeds. Farmers from Maharashtra, Karnataka, Telangana and Andhra Pradesh amongst other states have been repeatedly seen demanding that district administration conduct inquiry into matters and see that damages are claimed.

In our opinion, India must address the grievances of the farmers, like China and take their time to incorporate international laws into their regional laws.

Conclusion

Through this detailed comparative research, we have come to understand that IPR laws need to be flexible in developing countries as the country needs this to expand and be part the international commerce. We have also understood that developed nations usually influence developing nations into signing higher standards of IPR laws for the former's better advantage. However, with good governance and policy, a nation can use the international standards as guidelines to introduce regional laws. But while implementation, a nation needs to keep in mind the requirements of its citizens.

It cannot be denied that higher international standards promote healthy competition and aim to unify laws globally. China has already become the third largest country with respect to number of registrations in plant variety. USA and Germany and Russia have been dominating the agricultural industry for a long time and have been able to earn substantial earning through trade and licensing of agricultural produce and techniques.

Although, if a country like India wherein the majority of rural population depends on agriculture, passes a law in accordance with the UPOV'91 Convention to monopolize seed production with the multinational organizations, it will have to encounter devastating impacts. Since the producers of seeds are not small corporations but the farmers themselves, production of seeds will completely come to a standstill. Moreover, a defilement of right to livelihood is a violation of Article 21 of the Indian Constitution.

While recognizing the rights of breeders is beneficial for the developed nations that have already monopolized their seed sector, prominence needs to be given to a farmer's privileges in the countries that are still balancing their IPR laws with other social issues.

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