

# The Interface between Plant Variety Protection and Food Security: An Indian Experience

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## Abstract

Goal 2 of Sustainable Development Goals (SDGs) aims to achieve doubled agricultural productivity and increased income for small-scale food producers while ensuring sustainable food production systems by 2030. It also aspires to maintain the genetic diversity of seeds, promoting access to fair and equitable sharing of benefits. Various international conventions are already in force which directly or indirectly contribute to the realisation of this goal, UPOV, CBD, TRIPS, and ITPGFRA being the flagship ones. The Protection of Plant Varieties and Farmer's Rights Act in India is objectified towards recognising and protecting farmers' rights honouring their contribution to conserving, improving, and making available plant genetic resources for the new variety development. Drawing on the available literature, this article investigates the role that Plant Variety Protection & Farmers Right Act can play in realising this goal. The paper firstly sets the context and examines the relation between IPR, Food Security, and Globalisation. The article further explores the reasons for the recognition of Intellectual property to plant-related inventions and outlines the current levels of international and national protection. The researcher further undertakes to examine the interface between food security and the plant variety protection Act. At last, the paper sets out the conclusion and recommendations.

**Keywords:** Protection of Plant Variety and Farmer's Rights Act, 2001, UPOV, TRIPS, Food Security, CBD, ITPGFRA

## 1. Introduction

Food security is becoming a distant dream for the world; as per the Food and Agricultural Organization of the UN (FAO), between 720 to 811 million people have faced hunger in 2020.<sup>1</sup> At the same time, the latest entry on the global aim checklist is Goal 2 of Sustainable Development Goals (SDGs), which aims to achieve doubled agricultural productivity and increased income for small-scale food producers while ensuring sustainable food production systems by 2030.<sup>2</sup> SDGs also propose maintaining the genetic diversity of seeds to promote access to fair and equitable sharing of benefits.

Heads of State and Government present at the World Food Summit in 1996 defined food security as a state that 'exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy

<sup>1</sup>FAO, IFAD, UNICEF, WFP and WHO. 2021. The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition, and affordable healthy diets for all. Rome, FAO. <https://doi.org/10.4060/cb4474en>

<sup>2</sup> Available at <<https://www.un.org/sustainabledevelopment/hunger/>> accessed on 12 April 2022

life.<sup>3</sup> In developing nations, a variety of variables combine to cause food insecurity. Poverty and limited access to food are two of these variables that significantly contribute. In order to achieve food security, according to the Plan of Action adopted at the WFS, poverty must be eliminated. It emphasised the significance of having access to things like land, water, better seeds and plants, suitable technologies, and farm credits.<sup>4</sup>

The universal cause for food security requires immediate attention and solution, with the rise in population and scarcity of resources the cause could be defeated. The world requires a series of cumulative efforts to fulfill the need for food security. Oxford University's David Vaver stated in 1991 that "it seems impossible to claim that the current laws foster just the appropriate quantity of research, inventiveness, and funding, and just in the correct areas." While economists have attempted to assess the economic effectiveness of patent rights using a variety of methodologies over the course of this century, none of these evaluations offers a reliable guide to the level of IPR protection that would be the most economically efficient for any legal jurisdiction, much less the entire world.<sup>5</sup>

The new approach, which stresses the appropriation of resources and knowledge in agriculture, is of utmost importance for the majority of developing nations because food production management is intrinsically linked to the fulfillment of food requirements. Therefore, it is essential to ensure that the introduction of property rights in agriculture contributes broadly to the reduction of food insecurity. Operating intellectual property rights (IPRs) are intended to spur technological development without necessarily taking socioeconomic issues, such as food security, into account. Therefore, the introduction of IPRs, such as agricultural patents, does not guarantee the achievement of socioeconomic goals.<sup>6</sup>

### **TRIPS Implications on India**

With the upturn in demand for goods and services, the world has never been more interdependent. To smoothen the transactions, the World Trade Organisation (WTO), which emerged with the promise of facilitating free trade, easing trade disputes, and supporting developing countries, has been alleged that it has become a platform for the promotion of Neoliberal policies and practices of the US. The developed countries have also been choosing favourable forums, WTO being the best-suited one for their interest.<sup>7</sup> David Sagner, a political analyst, wrote that the US only exports its free-market values through the WTO.<sup>8</sup>

<sup>3</sup> UN Food and Agriculture Organization (FAO), Rome Declaration on World Food Security and World Food Summit Plan of Action (Rome, 13 November 1996), UN Doc. WFS 96/3 (1996), para. 1, available at: <http://www.fao.org/docrep/003/w3613e/w3613e00.HTM> accessed on 5 May 2022

<sup>4</sup> Queen Mary Intellectual Property Research Institute, "The Relationship between Intellectual Property Rights (TRIPS) and Food Security", Institute of Agricultural & Trade Policy, (2004) available at <https://www.iatp.org/documents/the-relationship-between-the-relationship-between-intellectual-property-rights-trips-and-fo> accessed on 14 May 2022

<sup>5</sup> David Vaver, "Some agnostic observations on intellectual property" (1991) *Intellectual Property Journal*, 6, pp.125-153.

<sup>6</sup> Phillippe Cullet, 'Intellectual Property Rights and Food Security in the South' (2004) 7 *Journal of World Intellectual Property* 261

<sup>7</sup> Peter Drahos, 'Developing Countries and International Intellectual Property Standard-Setting' (2005) 5 *Journal of World Intellectual Property* 765.

<sup>8</sup> Noam Chomsky, *Profit over People: Neoliberalism and Global Order* (Seven Stories Press, New York 1999).

In 1995, Under the aegis of the WTO, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) came into existence. The member countries were required to bring their laws by TRIPS provisions, thus creating uniform protection for Intellectual property among the member countries. India, the member country of WTO and signatory to TRIPS, is obliged to bring its laws at par with the principles and provisions in TRIPS. This inclusion has affected various sensitive sectors of the Indian economy, such as agriculture, healthcare, and education. It has caused considerable debate over its economic implications on developing and least developed countries.<sup>9</sup>

The Indian laws related to intellectual property witnessed overhauling changes from 1995 to 2005, but this transition was not smooth for India. The TRIPS agreement was confronted by India and other developing countries on various occasions and was alleged to benefit the developed countries only.<sup>10</sup> India has led global talks on North-South differences, particularly regarding agricultural intellectual property rights. The Patent Act of 1970 in India prohibits the patenting of agricultural and horticultural plants, and Indian organisations have harshly criticised the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement for allowing the patenting and private ownership of "global commons" such as seeds and plants. Additionally, India is home to various influential movements, civil society organisations, and small landholders that advocate for food sovereignty and seed sovereignty on a national and international scale.<sup>11</sup>

The implementation of Intellectual policy and practices in India has also been subject to criticism. The major tussle among all is related to the grant of intellectual property rights for new plant varieties and agricultural inventions. Before TRIPS, India did not allow intellectual property on seeds, farming methods, or genetic materials.<sup>12</sup> The Ayyangar Committee strongly advocated against the non-patentability of sources and genetic materials inventions.<sup>13</sup> As a signatory to TRIPS, India has taken the opportunity to legislate its Protection of Plant Variety and Farmer's Rights Act, 2001 (PPV&FR/the Act), which is a balancing act for TRIPS obligation Convention on Bio-Diversity (CBD), and Farmer's right. Legal protection for plant varieties is intended to encourage commercial plant breeders to invest in R&D for the development of new plant types. IPR for plant varieties offers breeders some certainty that they can recuperate the risk and expense of innovation based on underlying biological resources.

In 2021, the Parliamentary Standing Committee on Commerce published the One Hundred Sixty-First Report reviewing India's Intellectual Property Rights Regime. The Committee noted that the

*"Acculturation of Indian farmers and farming communities in IPRs is far from being achieved in India. In this direction, the Committee recommends that the Government make all-out efforts to create*

<sup>9</sup>Jayashree Watal, *Intellectual Property Rights in the WTO and Developing Countries* (Oxford University Press, New Delhi 2012).

<sup>10</sup>Peter K Yu, 'TRIPs and Its Discontents' (2006) 10 Marquette Intellectual Property Law Review 396 <<http://ssrn.com/paper=578577>>.

<sup>11</sup>Anjoo Sharan Upadhyaya, Åshild Kolås and Ruchita Beri (eds), *Food Governance in India* (Routledge 2022).

<sup>12</sup>Venkatesan Rashmi, 'TRIPS and Plant Variety Protection in India: Complicating the Globalisation Debate' (2018) 9 The Indian Journal of International Economic Law 43.

<sup>13</sup>SHRI JUSTICE N RAJAGOPALA AYYANGAR, *Report on The Revision of the Patents Law* (1959),

<[http://ipindia.gov.in/writereaddata/Portal/Images/pdf/1959-Justice\\_N\\_R\\_Ayyangar\\_committee\\_report.pdf](http://ipindia.gov.in/writereaddata/Portal/Images/pdf/1959-Justice_N_R_Ayyangar_committee_report.pdf)>

*awareness amongst farmers and farming communities to voluntarily embrace IPRs in protecting their rights in farming innovations, breeding, and varieties”.*<sup>14</sup>

At the same time, the Committee also recommended holding discussions and consultations for the patenting of plants and seeds in India, reiterating that a thorough analysis shall be conducted by the department on the feasibility of the same while taking into consideration the rights of farmers and other stakeholders primarily. The IP system boasts of advancing innovation and promoting knowledge creation by granting authors and inventors exclusive rights to their work for a limited time. Per contra, the grant of intellectual property rights in society has been subject to criticism for promoting monopolistic practices, increasing the cost of products, and litigation threats. IP protection for plants and agricultural inventions also raises many serious moral, ethical, and legal concerns for developing and least developed countries, taking away the right to seed from the farmers, oligopolistic control of food supply, and various environmental problems.<sup>15</sup>

## 2. INTELLECTUAL PROPERTY IN PLANT-RELATED INVENTIONS

The rationale behind the grant of Intellectual property rights in society is not limited only to the moral commitment to protect individual creations but to promote innovation and knowledge sharing and encourage creativity.<sup>16</sup> The monetary consideration of intellectual property (IP) rights is a significant impetus for innovation and agriculture innovation, particularly patent law, plant variety protection rights, and rights over genetic resources. The grant of intellectual property protection for plants and agricultural inventions is also justified by the need and their role in achieving the same.<sup>17</sup>

The introduction of IPRs in Plant related inventions proposed a paradigmatic shift from the traditional system of knowledge sharing to foster food security to private acquisition of knowledge. The Paris Convention for the Protection of Industrial Property of 1883 had long contemplated property rights in agricultural produces. Article 1 (3) of the Convention provided that

*“Industrial property shall be understood in the broadest sense and shall apply not only to industry and commerce proper but likewise to agricultural and extractive industries and all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers, and flour.”*<sup>18</sup>

The first-ever proposed grant of intellectual property protection for plants was the Papal States Edict of 3 September 1833, though it was never implemented; later, the USA, through the Townsend- Parnell Act of 1930<sup>19</sup>, provided the patent protection for agricultural inventions. The act provides for the

<sup>14</sup>Review of the Intellectual Property Rights Regime in India, Department Related Parliamentary Standing Committee on Commerce' (2021) <<http://rajyasabha.nic.in>>.

<sup>15</sup>Jayashree Watal, 'Intellectual Property Rights and Agriculture: Interests of Developing Countries [1999] the World Bank Integrated Program of Research and Capacity Building To Enhance Participation of Developing Countries in the Wto 2000 Negotiations 1.

<sup>16</sup>Laurence R.Helfer, 'Intellectual Property Rights in Plant Varieties: An Overview with Options for National Governments' [2002] FAO Legal Papers Online #31 59 <[www.fao.org/Legal/pub-e.htm](http://www.fao.org/Legal/pub-e.htm)>.

<sup>17</sup>Philippe Cullet, 'Food Security and Intellectual Property Rights in Developing Countries' 73 <[http://www.iprsonline.org/resources/docs/PCull.Food\\_sec\\_IPRs\\_7.11.03.pdf](http://www.iprsonline.org/resources/docs/PCull.Food_sec_IPRs_7.11.03.pdf)>.

<sup>18</sup>Paris Convention for the Protection of Industrial Property of March 20, 1883, as revised at Brussels on December 14, 1900, at Washington on June 2, 1911, at The Hague on November 6, 1925, at London on June 2, 1934, at Lisbon on October 31, 1958, and at Stockholm on July 14, 1967, and as amended on September 28, 1979: <<https://wipolex.wipo.int/en/text/287556>>

<sup>19</sup>US Plant Patent Act of 1930, 35 USC, 161-164

protection of asexually reproduced plants only, excluding sexually bred varieties and tubers. The reason for excluding these two was instability and the threat of monopolistic practices in basic food.<sup>20</sup> Presently, In the United States, three categories of intellectual property (IP) can be used to protect novel plant varieties: plant patents, utility patents, and plant variety protection.<sup>21</sup>

This legislation led to a discussion on whether or not plants can be given patent rights. One idea was to provide plants patent protection, while the other advocated giving plants *sui generis* protection and acknowledging the rights of plant breeders<sup>22</sup>. A number of European nations have also passed legislation pertaining to plant protection. Germany and the Netherlands both passed Plant Variety Protection Acts in 1942 and 1953, respectively, which were eventually replaced by the 1967 Act and 1968 Act for each nation.<sup>23</sup> In order to protect patents, Europe developed the European Patent Convention.<sup>24</sup> "Plant or animal varieties or essentially biological procedures for the production of plants or animals; this rule shall not apply to microbiological processes or the products thereof," it stated under exclusions to patentability.<sup>25</sup>

The mission statement for the Indian national IP policy focuses on enhancing access to healthcare, food security, and environmental protection through a dynamic, vibrant, and balanced intellectual property rights system in India, thus recognising and realising the role of Intellectual property protection in food security. Unlike the USA providing patent protection for the asexually produced plant varieties, Plants and animals in whole or part other than microorganisms and essentially biological processes for production or propagation of plants and animals are not patentable.<sup>26</sup> Under the Indian Patents Act, 1970, the plant varieties are explicitly excluded from the patentable subject matter. Section 3 (j) of the Act bars the patenting of plants, seeds, varieties, species, and essentially biological processes for producing or propagating plants.<sup>27</sup> In 2021, Department Related Parliamentary Standing Committee on Commerce presented the One Hundred and Sixty-First Report on 'Review of the Intellectual Property Rights Regime in India'. The Committee in the report has recommended the government for analysing the feasibility of granting patents to the seeds and plants, subject to its favourability to the Indian agricultural sector with the pre-condition of making the government a stakeholder with private players be co-owners.<sup>28</sup>

Currently, four prominent international agreements are in force. First is *Union Internationale pour la Protection des Obtentions Végétales* (UPOV), signed in 1961 aims to provide and promote an effective plant variety protection system; and defines plant variety, the subject matter of protection conditions for obtaining protection, and especially protecting the rights of breeders.<sup>29</sup> The second is the

<sup>20</sup>Michael Blakeney and Kadambot HM Siddique, *Local Knowledge, Intellectual Property and Agricultural Innovation* (2020).

<sup>21</sup>Janice M Strachan, "Intellectual Property Rights for Plants in the United States" (2011) 16 *Journal of Intellectual Property Rights* 84.

<sup>22</sup>Anshu Pratap Singh and Padmavati Manchikanti, "Sui generis IPR Laws vis.-a-vis. Farmers' Rights in Some Asian Countries: Implications under the WTO" [2011] 16 *Journal of Intellectual Property Rights* 107-116.

<sup>23</sup>Mohan Diwan, "IPR Protection in Agriculture: An Overview" [2011] 16 *Journal of Intellectual Property Rights*, 131-138.

<sup>24</sup>The Convention on the Grant of European Patents (European Patent Convention) of 5<sup>th</sup> October 1973

<sup>25</sup>*Ibid.*, Article 53

<sup>26</sup>Section 3, Indian Patent Act, 1970

<sup>27</sup>*Id*

<sup>28</sup>'Review of the Intellectual Property Rights Regime in India, Department Related Parliamentary Standing Committee on Commerce' (2021) <<http://rajyasabha.nic.in>>.

<sup>29</sup>R.Helfer (n 16).

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) under Article 27 (3) (b) requires protection of plant variety either through patents or sui generis system or by any combination thereof. India is not a member of UPOV because it is believed that UPOV only promotes industrialised farmers.<sup>30</sup> Third and fourth are the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and Convention on Biodiversity (CBD), both sharing somewhat common objectives of conservative and sustainable use of plant genetic resources and fair and equitable sharing of benefits. CBD and ITPGRFA recognise and press upon the need for on-farm conservation, sustainable use of plant genetic resources, and fair and equitable benefit sharing.

### **International Union for the protection of New Varieties of Plant (UPOV)**

The International Union for the protection of New Varieties of Plant (UPOV) is an intergovernmental organisation that came into existence in 1961 to provide and promote an effective plant variety protection system, aiming to develop new plant varieties for the benefit of society. As of November 3, 2021, UPOV has 78 members with 19 States, one intergovernmental organisation initiated the procedure for acceding to the UPOV Convention, and 22 States and one intergovernmental organisation have been in contact with the Office of the Union for assistance in the development of laws based on the UPOV Convention.<sup>31</sup>

The provisions of UPOV were significantly modified in 1972, 1978, and 1991. The most significant one from the point of view of developing countries was the 1991 revision. As the Convention of 1978 allowed for breeder's exemption, i.e., the breeders were allowed to use the protected material for breeding any new variety without any license, this exemption was made optional by the 1991 revision, and the member countries were allowed to make the required changes. The most crucial aspect for developing and least developed countries has been the Farmer's right, customarily the farmers are free to reuse, save and sell the seeds, but per contra under UPOV has put limitations to these fundamental rights of farmers. Since the very inception of UPOV, it has been regarded as the European seed breeding industry agent, focused primarily on safeguarding the interests of commercial breeders. The acts of 1972, 1978, and 1991 are considered the steps to broaden their reach.<sup>32</sup>

### **Convention on Bio-Diversity (CBD)**

As a result of the United Nations Conference on Environment and Development (UNCED) in 1992, the Convention on Biological Diversity (CBD)<sup>33</sup> was drafted. Conservation of biodiversity, sustainable exploitation of biodiversity, and promoting fair and equitable sharing of benefits deriving from utilising genetic resources among member nations are the three primary goals of the CBD. While the CBD does not include specifics on intellectual property rights, it does emphasise the value of technology transfer in achieving its objectives. The assertion that technology transfer is an essential tool to attain the aims of the Convention raises the issue of intellectual property rights (IPRs) because so much agricultural technology in industrialised nations is subject to IPR protection. Regarding

<sup>30</sup>Srividhya Ragavan and Jamie Mayers O'Shields, 'Has India Addressed Its Farmers' Woes? A Story of Plant Protection Issues' (2007) 20 The Georgetown Law Review 97 <<https://scholarship.law.tamu.edu/facscholar/510>>.

<sup>31</sup>UPOV, 'International Union for the Protection of New Varieties of Plants.' <[https://www.upov.int/edocs/pubdocs/en/upov\\_pub\\_437.pdf](https://www.upov.int/edocs/pubdocs/en/upov_pub_437.pdf)>.

<sup>32</sup>Blakeney and Siddique (n 20).

<sup>33</sup>Convention in Biological Diversity, Rio de Janeiro, 5 June 1992, <<https://www.cbd.int/doc/legal/cbd-en.pdf>> accessed on 8 July 2022

patents and other forms of intellectual property, the Convention requires that "access and transfer should be granted on terms which recognise and are compatible with the sufficient and effective protection of intellectual property rights" (Article 16.2). So, CBD unequivocally acknowledges intellectual property in agricultural and related inventions.

According to the Convention, financial gains accruing from the commercial exploitation of communities' biological resources and indigenous peoples' know-how must be fairly shared; the Convention also stipulates that the approval of the Contracting Party providing the genetic resources is necessary for their use. The extent to which TRIPS and CBD are compatible has been extensively debated.

### **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)<sup>34</sup> mandates that members of the World Trade Organization (WTO) provide a minimum of 20 years of patent protection for all inventions, regardless of whether they are products or processes, in practically all technological sectors. Protection is optional for plants and animals (other than microorganisms) and primarily biological processes employed in creating plants and animals (other than microbiological processes). Members of the WTO must safeguard plant varieties, however, either through patents, an effective sui generis system, or any combination thereof (Article 27 (3) (b)). Various developing countries objected to the TRIPS Agreement's terms because the agreement would hinder the development and technology transfer and will cause the imposition of unreasonable costs on the member countries. In the Joint Communication by Morocco on behalf of the African Group, it was reiterated that the requirement of plant varieties protection should be consistent with the public policy goals of member countries regarding nutrition, food security, and integrity of local communities. The communication also contended for the seed saving and exchange among the small farmers while protecting the legitimate rights of commercial breeders.<sup>35</sup>

### **The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**

Open exchanges of materials and knowledge have historically been the foundation for advancement in food plant development. Farmer-to-farmer sharing of seeds and information about them is a long-standing practice. Food crops were also transported from their original locations to remote regions around the world where they were enhanced and adapted. One of the key goals of the UN Food and Agriculture Organization (FAO) Treaty on Plant Genetic Resources for Food and Agriculture is to recognise the significance of keeping such flows unrestricted for research and breeding (ITPGRFA).<sup>36</sup>

In June of 2004, an agreement was reached on the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), stipulating a multilateral approach to access and benefit-sharing for a specific list of plant genetic resources for food and agriculture. The ITPGRFA mainly addresses access to and equitable sharing of the benefits created from the commercial usage of the genetic resources of the listed species in the food and agricultural sectors.

<sup>34</sup>Agreement on Trade-Related Aspects of Intellectual Property Rights, Marrakesh, 15 April 1994, <[https://www.wto.org/english/docs\\_e/legal\\_e/27-trips\\_01\\_e.htm](https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm)> accessed 12 July 2022

<sup>35</sup>Michael Blakeney, 'Plant Variety Rights and Food Security' in Michael Blakeney and Kadambot H. M. Siddique (eds.), *Local Knowledge, Intellectual Property and Agriculture Innovation* (Springer 2020)

<sup>36</sup>International Treaty on Plant Genetic Resources for Food and Agriculture, Rome, 3 November 2001, Doc. Y3159/E<<https://www.fao.org/3/i0510e/i0510e.pdf>> accessed on 10 June 2022

The purposes of the Treaty are pretty similar to those of the CBD. In light of this, it excludes the use of genetic resources in the pharmaceutical business from the scope of its investigation. In contrast, CBD investigates the exploitation of genetic resources in all areas of technological endeavour. Article 12.3(d) stipulates that Recipients shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts or components, in the form received from the Multilateral System. This includes any genetic details or features of those resources.

The ITPGRFA supports the rights of farmers to have unrestricted access to genetic resources and to utilise and store seeds. However, the execution of Farmers' Rights is left entirely to national governments. The significance of this is that the treaty member nations must analyse the link between Farmers' Rights and current intellectual property legislation. The member states may already contain provisions for Farmers' Rights in their plant variety laws, for instance. Member nations may also preserve certain parts of Farmers' Rights through additional legislation, such as regulations governing the commerce of seeds.

### **3. Food Security and Plant Variety Protection & Farmers Rights: Interface**

On the face of it, the global goal of food security and IP protection seem contrary, as intellectual property rights promote substantial private property rights over inventions and creations. In contrast, food security promotes the right to food as a fundamental human right. Given the close relationship between agriculture and food security, the expansion of IPRs to this industry is crucial. One could argue that the recognition of the fundamental necessity for food influenced the establishment of IPR in agriculture. But in the case of agriculture, this introduction has been and is still controversial. The necessity to increase food security over time justifies IPR in plant types as a matter of policy. The concern is also growing over the expansion of IPR to include food and plant materials, which could have negative effects on food security. R&D efforts are increasingly focused on developing economically appealing crops and variants, while the traditional seed supply is being depleted.<sup>37</sup>

Grant of intellectual property rights on plant varieties may also jeopardise the ability of the food supply to adapt to changing environmental conditions due to the fact that IPRs have a variety of unintended consequences, including the loss of biodiversity and traditional agricultural techniques. The granting of intellectual property rights over plant varieties encourages industrialised nations to create items that can be protected by IPRs and sold on commercial markets.<sup>38</sup> Rarely uniform enough to qualify for IPRs, farmer-bred cultivars are frequently ineligible for patent protection. As a result, some argue that traditional farmers not only lack the same incentives to innovate plant varieties as agricultural firms in the developed world because they cannot apply for patents over their varieties, but they also lack the same incentives to maintain their traditional agricultural practices or to conserve biodiversity.

IPRs such as patents and plant breeders' rights aim to incentivise private sector actors to develop seeds that produce higher yields or have unique traits that benefit food security and agro-biodiversity

<sup>37</sup> Carlos M. Correa (2012); TRIPS-Related Patent Flexibilities and Food Security: Options for Developing Countries, Policy Guide, QUNO-ICTSD, Geneva, Switzerland. <[https://quno.org/sites/default/files/resources/ENGLISH\\_TRIPS-Related%20Patent%20Flexibilities%20and%20Food%20Security\\_CORREA.pdf](https://quno.org/sites/default/files/resources/ENGLISH_TRIPS-Related%20Patent%20Flexibilities%20and%20Food%20Security_CORREA.pdf)>

<sup>38</sup> Lauren Winter, 'Cultivating Farmers' Rights: Reconciling Food Security, Indigenous Agriculture, and TRIPS' (2010) 43 Vand J Transnat'l

management.<sup>39</sup> In theory, both shall be complementary for achieving the balance between development and human welfare. Thus, the state is responsible and duty-bound to ensure an appropriate balance among the conflicting rights. In the context of the balancing of interests, UK Commission on Intellectual Property Rights (CIPR) has observed the following:

*“We, therefore, consider that an IP right is best viewed as one of how nations and societies can help to promote the fulfilment of human economic and social rights. In particular, there are no circumstances in which the most fundamental human rights should be subordinated to the requirements of IP protection. States grant IP rights for limited times (at least in the case of patents and copyrights) whereas human rights are inalienable and universal”.*<sup>40</sup>

### **The Protection of Plant Varieties & Farmers Rights act, 2001**

The duty to make laws related to patents, designs, copyright, and trademarks is vested with the Union under Entry 49, List 1 of the Constitution.<sup>41</sup> At the same, Part IV of the Indian Constitution provides directive principles of state policy that are fundamental in the country's governance and makes it the state's duty to apply the principles in making law. Article 38 requires the state to promote the welfare of the people by securing and protecting as it may a social order in which justice, social, economic, and political, shall inform all the institutions of the national life.<sup>42</sup> Article 39 (b) requires the state to direct its policy towards securing that ownership and control of the material resources of the community are so distributed as best to subserve the common good.<sup>43</sup> Clause (c) requires that the operation of the economic system shall not result in the concentration of wealth and means of production to the common detriment.<sup>44</sup>

Following the same, saving the national interest, India enacted the Protection of Plant Variety and Farmer's Rights Act, 2001 (PPV&FR Act) to comply with Article 27.3(b) of the TRIPS Agreement. Indian Protection of Plant Variety and Farmer's Rights Act, 2001 is objectified towards establishing an effective system for plant variety protection and encouraging the development of new varieties having a direct link with the attainment of the second goal of SDGs. The Act recognises and protects farmers' rights honouring their contribution to conserving, improving, and making available plant genetic resources for the new variety development. The Protection of Plant Varieties and Farmer's Rights Act in India is a prominent counterexample of the practice of complying with UPOV standards. Theoretically, the impact of the PVP regime varies based on the particular agronomic traits, institutional structures, and agricultural development phase. For instance, countries whose economies rely primarily on traditional agriculture dominated by subsistence farmers stand to benefit less from the introduction of strong PVP.<sup>45</sup>

The Indian PPV&FR Act 2001 is objectified to a) Recognise and protect the rights of farmers b) accelerate agricultural development and stimulate investment for research and development in the

<sup>39</sup>Cullet (n 17).

<sup>40</sup>CIPR. (2002). *Integrating intellectual property rights and development policy, report of the commission on intellectual property rights*. London: CIPR

<sup>41</sup>Entry 49, List 1, Sch. 7, Constitution of India, 1950

<sup>42</sup>India Const. Art 38, cl. 1.

<sup>43</sup>India Const. Art 39, cl. b.

<sup>44</sup>India Const. Art 39, cl. c.

<sup>45</sup> IPGRI, *The Agreement on Trade-Related Aspects of Intellectual Property Rights- A decision checklist* (International Plant Genetic Resources Institute, Rome, Italy), 1999.

public and private sectors c) facilitate the growth of the seed industry to provide high-quality seeds to the farmers.<sup>46</sup> Since the majority of farmers are engaged in traditional agriculture with little to no use of modern technologies, the extension of IP protection to plant varieties directly affects the rights of farmers. Giving monopolistic rights to multinational businesses and plant breeders, who primarily create new kinds using biotechnology and contemporary farming techniques, would mean restricting the rights of farmers who have historically preserved genetic resources from time immemorial. Farmers must be able to continue cultivating, conserving, and expanding crop genetic diversity, methods that over the previous 10,000 years have contributed to the rich diversity that exists today.<sup>47</sup> The new law recognises the farmer as a cultivator, a conserver of the agricultural gene pool, and a breeder who has bred several successful varieties.<sup>48</sup>

Nevertheless, with these promises, the concerns of the developing countries are no more minor as a grant of Property rights also proposes the high cost of goods and services, litigation, and monopolistic practices, which hinders the specific national goals. Thus, the ultimate purpose of legal protection is to promote social welfare through access to the ideas and information included in creators' works, not to remunerate creators.

#### 4. Conclusion

It is easy to find the link between the global goal of Food Security and Intellectual property, as, both focus on promoting and achieving the social well-being of humans. While patent laws and UPOV recognise and reward plant breeders and agricultural biotechnologists for their role in agricultural innovation, they fail to recognise the role played by traditional farmers in the conservation and development of plant genetic resources from which some of these new varieties were created.<sup>49</sup> India needs to balance the interest of the private parties and the citizens, including small farmers. The policy and legislation shall endeavour to remove conflicts and provide a balanced ecosystem for promoting innovation in the food-related industry. Exposing small farmers to the latest technological advancements shall be the priority of the Government. India needs to provide a policy that harmonises the conflict of interest between the private breeders and farmers, provides awareness among the small stakeholders, and creates a sound and benefit-sharing mechanism. India cannot wholly rely on developed countries' promises and reasoning for tagging everything as Intellectual property. SDG realisation also depends upon rebalancing agricultural policies and incentives toward nutrition-sensitive investment. An effective plant variety protection regime can ensure food security in India by inspiring the development of new plant varieties which are high in yield and nutrition.

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<sup>47</sup>Regine Anderson, "Crop Genetic Diversity and Farmers' Rights" in Regine Andersen and Tone Winge, (eds) *Realizing Farmers' Rights to Crop Genetic Resources*, (Routledge, 2013) 24

<sup>48</sup>Suman Sahai, 'India's Plant Variety Protection and Farmers' Rights Act, 2001' (2003) 84 *Current Science* 407.

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