

INTERNATIONAL JOURNAL OF LEGAL SCIENCE AND INNOVATION

[ISSN 2581-9453]

Volume 4 | Issue 1

2022

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Intellectual Property Protection to Farmers Over Indigenous Genetic Resources

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ABSTRACT

The demand for extending intellectual property protection to agriculture has met with counterclaims for granting farmers' rights. This paper argues that the status of farmers as breeders and conservers of traditional knowledge will enhance only if the intellectual property rights of farmers are recognized. Further, this is also premised on the assumption that no amount of institutional framework shall be efficacious unless the community ownership rights are also recognized along with individual rights within the intellectual property rights regime. It further argues that the idea of farmers' rights protection is not just a simple question of recognizing the rights of the farming community. It is a mixed question of economics, ethics, culture, technology and law.

Significant contributions have been made by the knowledge of indigenous people and traditional farmers in the development of new crops and biodiversity conservation. These groups have been an important agency in the conservation and supply of plant genetic resources to seed companies, plant breeders, and research institutions. The paper further discusses the issue of biopiracy; knowledge of indigenous people is used by others for profit, without permission from and with little or no compensation or recognition to the rights of indigenous people. Further, the issue relating the right to access and benefit-sharing to the indigenous people. The concept of benefit sharing creates opportunities for compensation in the case of the use of genetic resources.

Paper further discusses, International Union for the Protection of New Varieties of Plants, 1961 (UPOV Convention). The UPOV Convention is a sui generis regime of intellectual property protection specially adapted to protect the plant breeding industries of the developed world. The UPOV Convention limits the scope of protection for new plant varieties to propagating material of the variety and exempts certain uses of propagating material from infringement.

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I. INTRODUCTION

For thousands of years, farmers around the world have been selecting and conserving varieties of different crop plants, and in this way, significant contributions have been made by them in the conservation and development of new crops. They play a crucial role in various areas, particularly food production, protection of traditional knowledge, and protection of biological diversity of a country. Whereas, intellectual property protects the incentives of plant breeders in developing new varieties of plant which are based on varieties of farmers, who is the custodian of plant genetic diversity for food and agriculture do not get sufficient protection for their incentives under the existing intellectual property protection regime.

Before the introduction of systematic plant breeding by the selection, plants grown by farmers were the result of thousands of years of partly conscious, partly unconscious selection. Farmers breed new varieties of plants and conserve agricultural diversity as a natural corollary and as an extension of their profession without the expectation of any returns or benefits³.

Farmer's rights are the traditional rights that farmers have on the seeds or the propagating materials of plant varieties. These rights are basically about enabling farmers to continue their work as stewards and innovators of agricultural biodiversity and recognizing and rewarding them for their contribution to the global pool of genetic

resources. The importance of these rights from the conservation point of view becomes more compelling with the grant of plant breeders rights (PBR) to commercial breeders under intellectual property protection regime. The demand for extending intellectual property protection to agriculture has met with counterclaims for granting farmers' rights. In this respect, the debate over farmers' rights protection has attracted much attention in the recent time all over the world

The present work aims to discuss the development of the intellectual property regime for the protection of farmers' rights in light of various theoretical and legal debates and controversies that have accompanied this development.

II. BIOTECHNOLOGY AND INDIGENOUS GENETIC RESOURCE

In the agricultural sector, before the advent of biotechnology, particularly plant biotechnology, inventions relating to the breeding or propagation of new varieties of the plant were considered to be in the realm of natural and obvious evolutions or discoveries which were not entitled to any patent or other form of IPR protection. Plant varieties developed by modern biotechnology utilize the traditional varieties and are merely improvements of the traditional breeding carried out by different generations of farmers⁴. Significant contributions have been made by the knowledge of indigenous people and traditional farmers in the development of new crops and

³ S. Bala Ravi, *Manual on Farmers Rights* (2004) M.S. Swaminathan Research Foundation, at 17

⁴ Mohan Dewan, "IPR Protection in Agriculture: An

Overview" (2011) 16 *Journal of Intellectual Property Rights* pp.131-138 at 134

biodiversity conservation⁵. These groups have been an important agency in the conservation and supply of plant genetic resources to seed companies, plant breeders, and research institutions. Yet, no consideration had been given to the contributions of these farmers under the intellectual property regime.

It is also essential that plant genetic resources should be conserved, improved, and preserved for the benefit of the present as well as future generations since plant genetic resources are the raw material indispensable for crop genetic improvement.

III. BIOPIRACY

The immediate effect of modern biotechnology on farmers of developing countries was the emergence of the menace of bio-piracy. Traditional knowledge has always been an easily accessible treasure and has been at risk of misappropriation.⁶ It is often misappropriated because it is conveniently assumed that since it is in the public domain, communities have given up all claims over it. This appropriation is known as bio-piracy, and Bardi, Gutierrez-Oppe and Politano define it as the phenomenon where biological resources and associated traditional knowledge are used in an irregular, illegal, unfair, and inequitable manner⁷. Knowledge of indigenous people is used by others for profit,

without permission from and with little or no compensation or recognition to the rights of indigenous people.

Bio-pirates benefited and prospered from the plundering of natural resources from the developing and less developed countries without paying any royalty to the source countries at all. The stealing of biological resources and indigenous knowledge would affect food security, the livelihood of indigenous people, and consumers' choices⁸. The grant of patents on knowledge based on the existing traditional knowledge of the developing world, or a minor variation thereof, has been causing great concern to the developing world. In the case of biopiracy of traditional knowledge, the country had to fight for the revocation of patents. However, it may not be an option possible for all the patents granted on the traditional knowledge since it involves huge costs and time.

As innovation in farming evolved across centuries, the same practices as it stands today is collective knowledge accumulated across generations. This knowledge is restricted to certain groups of people and passed on as traditional knowledge (TK)⁹. Hansen and Van Fleet define TK as information based on experience and adaptation to local culture and environment¹⁰. It fundamentally covers

⁵ Elizabeth Verkey, "Shielding Farmers' Rights" (2007) 2(12) *Journal of Intellectual Property Law and Practice* pp.825-831 at 826

⁶ "Bio-piracy of Traditional Knowledge" (12th, January 2022) <http://www.tkdil.res.in/tkdil/langdefault/common/BioPiracy.asp?GL=#Intro>

⁷ Marcelo A.G. Bardi, Evelyn Gutierrez-Oppe, and Rodolfo Politano, "Traditional Knowledge Products in Latin America and their Misappropriation" (2011) 6(1) *Journal of Intellectual Property Law & Practice*

pp.34-42 at 35

⁸ Sayan Bhattacharya, "Bio-prospecting, Bio-piracy and Food Security in India: The Emerging Sides of Neo-liberalism" (2014) 12 *International Letters of Social and Humanistic Sciences* pp.49-56 at 49

⁹ S. Kulluri, "Traditional Knowledge and Patent Strategy" (2012) 17 *Journal of Intellectual Property Right* pp.430-436 at 430

¹⁰ Stephen A. Hansen and Justin W. Van Fleet, "Issues and Option for Traditional Knowledge Holders in

knowledge that has been accumulated through generations by virtue of tradition. It also includes developments of the creation from time to time depending on the changing needs of the society.¹¹ These developments act as an addition to existing knowledge and form part thereof. It is passed on to the next generation, thereby collectively shaping the nature of TK for the next generation. This knowledge is used to sustain the community and its culture and to maintain the genetic resources necessary for the community's continued survival¹²—for example, the use of turmeric in India for wound healing.

World Intellectual Property Organization (WIPO) uses the term TK to refer to tradition-based literary, artistic or scientific works; performances, inventions, scientific discoveries, designs, marks, names and symbols, undisclosed information and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields. In yet another definition by WIPO, TK has been referred to as all tradition-based intellectual creation and innovation, in the very broadest sense, which is constantly evolving, in response to a changing environment and are generally regarded as pertaining to a particular people or territory¹³.

Genetically modified crops are the result of millennia of breeding and improvement of indigenous people based on their traditional knowledge¹⁴. It has a serious impact on the protection and conservation of traditional knowledge. The debate relating to the protection of traditional knowledge in the context of the use of plant biotechnology primarily includes the issue of the use of traditional knowledge as raw material, the rights of the indigenous people to access and benefit-sharing, and the impact of bio-piracy on traditional knowledge¹⁵.

With the advent of this technology, traditional knowledge is being commercialized at the cost of indigenous people. Venkataraman and Swarna Latha pointed out that the misappropriation of this knowledge is the biggest problem facing the local communities and tribal people who should be its rightful owners¹⁶. Concern over the growing interest and economic importance of traditional knowledge has generated a wide range of public policy issues, including those associated with intellectual property protection.

IV. RIGHTS TO ACCESS AND BENEFIT-SHARING

The next issue is the right to access and benefit-sharing to the indigenous people. Indigenous people involved in the conservation and

Protecting Their Intellectual Property” in A. Krattiger, R.T. Mahoney and L. Nelsen (eds.) *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices* (MIHR, Oxford, UK and PIPRA, Davis, USA, 2007) at 1523

¹¹ Supra note 7, at 432

¹² Supra Note 8.

¹³ *Intellectual Property Needs and Expectations of TK Holders* (2001) WIPO Report on fact-finding Mission on Intellectual Property and TK (1998-99) Geneva, April 2001 at 25

¹⁴ S. Kulluri, supra note 7 at 432

¹⁵ Solomon E. Salako, “Agro-biotechnology, Indigenous People’ Rights and Traditional Knowledge” (2012) 20(2) *African Journal of International and Comparative Law* pp.318-332 at 331.

¹⁶ K. Venkataraman and S. Swarna Latha, “Intellectual Property Rights, Traditional Knowledge and Biodiversity of India” (2008) 13 *Journal of Intellectual Property Rights* pp.326-335 at 329

preservation of traditional knowledge requires the right to access and benefit-sharing against the use or access of their knowledge. The Convention on Biological Diversity, 1992 (CBD) discusses the issue of access and benefit-sharing, keeping in mind the importance of the biological resources of a country. Article 15 of the Convention requires that the access of biological resources be on mutually agreed terms¹⁷ and subject to prior informed consent¹⁸. The results of research and development and the benefits arising from the commercial and other utilization of genetic resources have to be shared in a fair and equitable way with the country providing such resources on mutually agreed terms¹⁹. It also calls for fair and equitable sharing of benefits derived from the use of traditional knowledge associated with biological resources²⁰. This recognition has changed the open-access regime that was prevalent in which third world genetic resources were treated as the 'common heritage of mankind. The concept of benefit sharing creates opportunities for compensation in the case of the use of genetic resources. In particular, it includes the opportunity granted or availed for participation in research and development on genetic resources and making available the findings of such research and development or the transfer of technology.²¹ The governing body of

the Convention agreed on the Bonn Guidelines on Access and Benefit Sharing, 2002, to assist parties in developing overall access and benefit-sharing strategies based on prior informed consent.

The TRIPs Agreement is indifferent to acts of bio-piracy and thus results in systemic conflicts with the CBD. Article 29 of the TRIPs contains an obligation to disclose details of the invention²². There is a demand by the developing countries to insert Article 29- A in the TRIPs to make it obligatory for a patent applicant to disclose the origin of biological resources. The CBD recognizes that states have sovereign rights over their own biological resources and rely on community rights, while the TRIPs agreement recognizes that intellectual property rights are individual rights. Thus, a conflict would necessarily follow.

V. INTELLECTUAL PROPERTY RIGHTS AND FARMERS

In this regime, the breeder of seed who claims to have developed a new plant variety is given an exclusive monopoly right for a limited period of time in relation to the seed, which has the effect of generally preventing others from using, selling or producing the seed without the breeder's

¹⁷ The Convention on Biological Diversity, *supra* note 27 Article 15(4)

¹⁸ *Id.* Article 15.5

¹⁹ *Id.* Article 15.7

²⁰ K. Venkataraman and S. Swarna Latha, *supra* note 61 at 331

²¹ Traditional Knowledge", (13th January, 2022) available at: <http://www.aripo.org/index.php/services/traditional-knowledge>

²² The TRIPs Agreement, 1994, Article 29(1)

Members shall require that an applicant for a patent shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art and may require the applicant to indicate the best mode for carrying out the invention known to the inventor at the filing date or, where priority is claimed, at the priority date of the application; and (2) Members may require an applicant for a patent to provide information concerning the applicant's corresponding foreign applications and grants.

permission²³. Farmers' rights do not fit comfortably into an intellectual property context²⁴. The subject matter of each of the conventional categories of intellectual property right protection is precisely defined, whereas farmers' rights are attached to less specific incremental contributions to the innovation process. The potential subject matter protected by farmers rights is a plant, plant varieties, crops, landraces, traditional plant genetic resources for food and agriculture with their wild and weedy relatives from in situ and ex-situ, and the related know-how of informal plant breeders²⁵. It is also pointed out that, since the concept of farmers' rights was originated as a counterbalance to the intellectual property system, it would be illogical to incorporate those rights within the intellectual property system.

Farmers' Rights, on the other hand, are a retrospective reward, of unlimited duration, for the conservation of plant genetic resources²⁶. The concept of farmers' rights does not limit the contribution made by farmers over a specified subject matter but covers plant breeding and conservation over the years. It is also easy to identify the beneficiaries of intellectual property rights, such as innovators and inventors.

However, in the case of farmers' rights, it is often difficult to identify the beneficiary community, where, for example, a landrace is found in a number of different in situ national locations, as well as ex-situ collection outside the country²⁷.

Thus, they, in fact, embody knowledge, innovation and practices of these communities and warrant protection under Article 8(j).²⁸ There have been proposals that the disclosure requirement might be enforced by making it a condition of approval of an application and providing for revocation where disclosure is shown to be fraudulent. This means that the grant of IP rights will be not only subject to the conditions laid down by IP laws but also be subject to those laid down by other laws which are not directly deal with IP, such as biodiversity laws.

VI. IP PROTECTION FOR FARMERS

Farmers' Rights as Intellectual Property Rights
Intellectual property law only began to put forth a significant influence upon plant breeding with the introduction of the International Union for the Protection of New Varieties of Plants, 1961 (UPOV Convention).²⁹ The UPOV Convention is a sui generis regime of intellectual property protection specially adapted to protect the plant

²³ The FAO, Revision of the International Undertaking: Analysis of some Technical, Economic and Legal Aspects for Consideration in Stage II (1994) CPGR-Ex1/94/5 Supp., para 38

²⁴ Michael Blakeney, "Protection of Plant Varieties and Farmers' Rights" (2002) 24(1) European Intellectual Property Review pp.9-19 at 15

²⁵ J. Staffler, Towards a Reconciliation between the Convention on Biological Diversity and TRIPs Agreement: An Interface among Intellectual Property Rights on Biotechnology, Traditional Knowledge and Benefit Sharing (2002) Universite de Geneve, Institute Universitaire de Hautes Etudes

Internationales at 39.

²⁶ Michael Blakeney, Regulating Access to Genetic Resources (2002) International Association for the Advancement of Teaching and Research in Intellectual Property Congress (ATRIP) New Delhi, India para 1

²⁷ Id. para 4.2

²⁸ David R. Downes, "How Intellectual Property Could be a Tool to Protect TK" (2000) 25 Columbia Journal of Environmental Law pp.253-279 at 274

²⁹ F.K. Beier and J. Straus, "Genetic Engineering and Industrial Property" (1987) 11 Industrial Property at 453

breeding industries of the developed world.³⁰ The UPOV Convention limits the scope of protection for new plant varieties to propagating material of the variety and exempts certain uses of propagating material from infringement. The use of propagating material for private and non-commercial purposes, the use of propagating material for experimental purposes, and the use of propagating material for the purpose of breeding other varieties are certain exemptions provided in the Convention³¹. The latter exemption, known as the breeder's exception, is a defining feature of this form of intellectual property and the cornerstone of the UPOV Convention system. In addition, the UPOV Convention also permits, as an optional exception, farmers to save propagating material harvested from a crop for the purpose of producing further crops, known as the farmers' exception³².

The 1978 version of the UPOV Convention provides an exemption for farm-saved seed by farmers under plant breeders' rights. Originally, plant breeders' rights under Convention were only for commercial production and marketing, and since the use and exchange of saved seeds were considered non-commercial, the activity was considered outside the scope of PBRs. It thus

allowed farmers to save, use and exchange seed but not sell without penalty under plant breeders' rights.

The UPOV Convention, 1991, Article 15(2) Optional Exception: Notwithstanding Article 14, each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or (ii).³³ It refers to the privilege of farmers to save seed or reproductive material of the protected variety from their harvest for sowing on their land to produce a further crop³⁴. This saving of seed from their harvest out of the protected variety is not an infringement under the 1978 version of UOPV.¹⁴³ In the UPOV, 1978, two important exceptions to breeders' rights were created for the protection of farmers' interests. Firstly, the freedom of other breeders to use the protected variety as starting material for breeding further variety without any requirement for authorization and any payment of royalty (known as the breeder' exemption) and Secondly, the

³⁰ Niels Louwaars, Rob Tripp, and Derek Eaton, "Intellectual Property Rights in the Breeding Industry: Farmers' Interests" (2006) 14 *Agricultural and Rural Development* at 1

³¹ *Supra* note 27 at 4

³² The UPOV Convention, 1991, Article 15(2) Optional Exception: Notwithstanding Article 14, each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the

product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or (ii)

³³ Anitha Ramanna, *India's Plant Variety and Farmers' Rights Legislation: Potential Impact on Stakeholder Access to Genetic Resources* (2003) EPTD Discussion Paper No. 96, Environment and Production Technology Division, International Food Policy Research Institute, Washington, at 5 142

³⁴ S.K. Verma, "TRIPs and Plant Variety Protection in Developing Countries" (1995) 17(6) *European Intellectual Property Review* pp.281-289 at 285

freedom of farmers to re-use saved seed of the protected variety (known as farmers' privilege). The first was explicitly provided, while the second was an implicit consequence of the minimalist scope of protection³⁵.

The concept of farmers' rights seems contradictory to the principles of intellectual property. But, it is a retrospective reward for the unlimited duration for the conservation of plant genetic resources. The rights provided, in addition to the innovations done on the farms, the reward for the past innovation. The knowledge and rights of the local community have to be strengthened in order to conserve our biological diversity. The concept of community rights is an important tool in this respect to facilitating the protection of traditional knowledge of the indigenous people³⁶.

The granting of exclusive rights, which is absent in the case of farmers' rights, is deemed necessary to compensate the title holders for the risk and expenses involved in the inventive/creative process³⁷. It has been suggested that there should be no relationship between farmers' rights and the IPR system, whilst others propose that the rights could be recognized in laws relating to plant breeders' rights.³⁸ Another suggestion seeks to establish a sui generis regime on farmers' rights, which is separate from existing forms of IPRs or extend

the existing definition under plant breeders' legislation to protect farmers' varieties³⁹.

There seem to be no consensus on the exact rights to be conferred as the reason given for farmers' rights significantly differs from that of patents, copyrights and plant breeders' rights. There are important differences between farmers' rights and IPRs. Such differences are fundamental, which go beyond the type of rights conferred. There are major differences between the two concepts, not only in terms of rights granted but in relation to the titleholders, possibly farmer communities or the States, in the case of farmers' rights and duration. Most importantly, farmers' rights are based on the contributions made by farmers over the years in plant breeding and conservation, but they are not restricted to or exercised over a particular subject matter. In contrast, IPRs can only be exercised in relation to subject matter which is defined as precisely as possible. IPRs may be regarded as an ethical imperative in recognition of the intellectual contributions of farmers or as a tool useful to preserve biodiversity and prevent further erosion thereof⁴⁰. There are several proposals to extend the application of current modalities of intellectual property rights, or to amend existing laws and practices, in order to protect certain components of indigenous/traditional knowledge, including farmers' varieties. Such

³⁵ *Id*

³⁶ Elizabeth Verkey, *Law of Plant Varieties Protection* (Lucknow: Eastern Book Company, 2007) at 145

³⁷ *Id*

³⁸ Hossam El-Saghir, James Mwijukye and Grace Issahaque, *supra* note 112

³⁹ Carlos M. Correa, "Options for the Implementation of Farmers' Rights at National Level" (2000) TradeRelated Agenda, Development and Equity (TRADE) Working Papers No.8, South Centre at 3.

⁴⁰ *Id*

proposals include the following: Farmers' Rights under Existing IP Regime⁴¹.

The protection of plant variety within the UPOV requires that the varieties must be new, distinct, uniform and stable. These conditions hinder the extension of protection to farmers' varieties (landraces) as they are not new, nor are they distinct, uniform and stable. However, protecting farmers' varieties by means of PBRs might be achieved by adapting the UPOV criterion to lessen its purported effect. One of the conditions for granting plant breeders' rights is that the variety must be novel. Since traditional knowledge holders and farmers varieties do not fulfil this condition, they can hardly be protected under the plant breeders' rights system.

New Requirements in IP Regime Introducing new requirements into existing IP laws such as the obligation to disclose in a patent application the origin of the materials used to develop the invention and prior informed consent so as to facilitate benefit sharing⁴² and the introduction of means to address the issue of the prior art may be another form of protection of intellectual property rights of farmers⁴³. The basic requirement for an invention to be patentable is a novelty, i.e. it must be novel; it makes no sense to grant someone a patent on an invention that already exists and is available to the public. Problems arise where public knowledge is not

easily accessible during the research procedure. At the patent application stage, most patents of the offices may not survey foreign literature in which description of TK appeared if an invention is already part of the prior art and therefore not novel⁴⁴.

The views and options which have been suggested are many and varied in respect of the relationship between these two categories of rights. It has been suggested that there should be no relationship between farmers' rights and the IPR system, whilst others propose that the rights could be recognized in laws relating to plant breeders' rights. Another suggestion seeks to establish a sui generis regime on farmers' rights, which is separate from existing forms of IPRs or extend the existing definition under plant breeders' legislation to protect farmers' varieties⁴⁵.

It is also easy to identify the beneficiaries of intellectual property rights, such as innovators and inventors. However, in the case of farmers' rights, it is often difficult to identify the beneficiary community⁴⁶. Also, the right of each category of intellectual property protection is precisely defined, whereas farmers' rights are attached to less specific incremental contributions to the innovation process⁴⁷. Each intellectual property subject matter is well defined, whereas the potential subject matter

⁴¹ Thomos Cottier, "The Protection of Genetic Resources and Traditional Knowledge: Towards More Specific Rights and Obligations in World Trade Law" (1998) 1(4) *Journal of International Economic Law* pp.555-584 at 576.

⁴² Carlos M. Correa, *supra* note 37 at 17

⁴³ Commission on Plant Genetic for Food and Agriculture, Carlos M. Correa, Access to Plant

Genetic Resources and Intellectual Property Rights (1999) Background Study Paper No.8 at 20

⁴⁴ Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge as Prior Art, WIPO GRTKF/IC/2/6

⁴⁵ Carlos M. Correa, *supra* note 37 at 15

⁴⁶ *Id*

⁴⁷ *Id*

protected by farmers rights are plant, plant varieties, crops, landraces, traditional plant genetic resources for food and agriculture with their wild and weedy relatives from in situ and ex-situ, and the related know-how of informal plant breeders⁴⁸. Consequently, the fundamental differences which exist between farmers' rights and intellectual property rights system in relation to rights defined subject matter, titleholders, and duration raise issues as to whether farmers' rights can be easily accommodated under IPRs, particularly when the two systems have evolved through different stages. However, it is worth stressing that the linking of Farmers⁴⁹ Rights to the international intellectual property system has the principal advantage for the enactment of Farmers' Rights, as this would cover a wider group of countries as contracting members of the World Trade Organization and therefore signatories to the TRIPs Agreement.

VII. CONCLUSION

The essentials of farmers' rights are most apparent in Article 9 of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR), which provides that: 1) The contracting parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis

of food and agriculture production throughout the world.⁵⁰ 2) The Contracting Parties agree that the responsibility for realizing Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote farmers rights, including protection of traditional knowledge relevant to plant genetic resources for food and agriculture; the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and the right to participate in making decisions.

⁵¹The FAO International Undertaking on Plant Genetic Resources for Food and Agriculture, 1989, Article 9(1) national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.⁵² 3) Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate⁵³. Though this resolution was a milestone, it was not legally binding, nor was the ways in which it was to be implemented delineated. Furthermore, the definition did not actually define the concept. It stated where the concept had arisen and the purpose of farmers' rights. What they were rights to, who the rights holders were, and how the rights were to be maintained these issues were not clarified. Thus

⁴⁸ *Id*

⁴⁹ *Id*

⁵⁰ The Twenty-Sixth Session of the FAO Conference, Rome, November 9-27, 1991

⁵¹ The FAO International Undertaking on Plant

Genetic Resources for Food and Agriculture, 1989, Article 9(1)

⁵² *Id*. Article 9(2).

⁵³ *Id*. Article 9(3).

we may say that the resolution marked an important beginning, but the actual realization of farmers' rights requires a lot of further conceptualization and operationalization⁵⁴.

The realization of farmers' rights should mean the recognition of the rights to save seeds; have access to the latest technology; receive information on and duplicate samples of the materials collected by third parties; receive public credit for having provided genetic resources; contributing to or facilitating the realization of public sector plant breeding and agricultural research objectives. Various proposals made in the process of revision of the International Undertaking have identified different kinds of rights/obligations that may constitute the basis of farmers' rights.

⁵⁴ Regine Andersen, *The History of Farmers' Rights: A Guide to Central Documents and Literature* (2005)

The Farmers' Rights Project, Background Study Paper I, FNI Report 8/2005 at 14.