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Convention for the protection of new varieties of plants: An overview

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Abstract
Plant Variety Protection is a form of Intellectual Property Right granted to the breeder of new Plant variety in relation to certain acts concerning the exploitation of the protected variety which Require prior authorization of the breeder. Plant breeders developing new plant varieties are able To apply for different kinds of Intellectual Property Rights (IPR). However, this is the result of Complex historical process that only resulted in the consideration of plants as suitable for Intellectual property protection at a global scale. This paper examines overview of the convention for the protection of plant varieties, role of Trips agreement and UPOV.

Keywords: convention, protection, plant variety

Introduction

Plant varieties were developed over centuries through the Exchange of seeds and the sharing of knowledge among Farmers. Even today this is the model of innovation and Diffusion in agriculture that prevails in most developing Countries. It is based on principles of common ownership, Within a given community, and free access to materials and Knowledge. However, with the development of commercial Plant varieties by seed companies, a new model of production And diffusion, based on. Intellectual property rights, has Emerged. As a result of the obligations imposed by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), World Trade Organization (WTO) member Countries have now become bound to provide for some form of Intellectual property Protection on Plant varieties. Hence the first multilateral system for the protection of PBRs was created through the Convention establishing the International Union for the Protection of New Varieties of Plant (UPOV) in 1961. The mission of UPOV is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society. 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. The aim of this paper is to provide an overview of the convention for the protection of plant varieties and how to overcome the dysfunctional Plant Variety Protection System.

Plant variety protection and the trips agreement 1994

Probably the most notorious requirement of the TRIPs Agreement is that in Art.27.3 (b), which requires that Member 'shall provide for the protection of plant varieties either by Patents or by an effective 'sui-generis system or by any Combination thereof.' Art 8 of Agreement, in enunciating the Principles which are to animate it, provides that 'consistent With the provisions of the Agreement'; signatories may 'adopt Measures necessary to protect public health and nutrition, and To promote the public interest in sectors of vital importance to Their socio-economic and technological development. It would Not be too difficult to construct an argument that the obligation To protect plant varieties might to be inconsistent with a given Nation's need for food security. However, the opening words Of Art.8 suggest that in case of a conflict between these Provisions, the obligations within the Agreement, such as Art. 27.3 (b), are paramount (Intellectual Property, Traditional Knowledge and Genetic Resources).

Role of International Union for Protection of New Varieties (UPOV)

The mission of UPOV Convention is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society. 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.

What does UPOV do?

UPOV's mission is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society. The main objectives of UPOV are, in accordance with the UPOV Convention, to:

- provide and develop the legal, administrative and technical basis for international cooperation in plant variety protection;
- assist States and organizations in the development of legislation and the implementation of an effective plant variety protection system; and
- enhance public awareness and understanding of the UPOV system of plant variety protection.

Plant Variety

The term "species" is a familiar unit of botanical classification within the plant kingdom. However, it is clear that within a species there can be a wide range of different types of plant. Farmers and growers need plants with particular characteristics and that are adapted to their environment and their cultivation practices. A plant variety

represents a more precisely defined group of plants, selected from within a species, with a common set of characteristics.

Benefits of new varieties of plants for society

New, improved varieties of plants are an important and sustainable means of achieving food security in the context of population growth and climate change. New varieties that are adapted to the environment in which they are grown increase the choice of healthy, tasty and nutritious food while generating a viable income for farmers.

Innovation in agriculture and horticulture is important for economic development. Production of diverse, high quality varieties of fruit, vegetables, ornamentals and agricultural crops provides increased income for farmers and employment for millions of people around the world. New varieties can be the key to accessing global markets and improving international trade for developing countries. At the same time, new varieties can support the development of urban agriculture and the growing of ornamental plants, shrubs and trees that contribute to improving the lives of people in the expanding urban environment.

Increasing productivity whilst respecting the natural environment is a key challenge in the context of population growth and climate change. Breeding plant varieties with improved yield, more efficient use of nutrients, resistance to plant pests and diseases, salt and drought tolerance and better adaptation to climatic stress can sustainably increase productivity and product quality in agriculture, horticulture and forestry, whilst minimizing the pressure on the natural environment.

Why is plant variety protection necessary?

Successful breeding requires great skill and knowledge. In addition, large-scale breeding calls for significant investment in land, specialized equipment (for example, greenhouses, growth chambers and laboratories), and skilled, scientific manpower.

- It takes a long time to develop a successful plant variety (10 to 15 years in the case of many plant species). Yet not all new plant varieties are successful and, even where the varieties show significant improvements, changes in market requirements may eliminate the possibility of a return on investment. This makes it necessary to balance the benefits with the return of the original high investment. Generally, however, plant breeding results in the availability of varieties with increased output and improved quality for the benefit of the society.
- Sustained and long-term breeding efforts are only worthwhile if there is a chance to be rewarded for the investment made. To recover the costs of this research and development, the breeder may seek protection to obtain exclusive rights for the new variety.
- At the same time, a new variety, once released, can often be easily reproduced by others. The original breeder is thus deprived of the fair opportunity to benefit from his or her investment. It is, therefore, critical to provide an effective system of plant variety protection, which encourages the development of new varieties of plants thereby benefiting the breeder and society at large.

Benefits of plant variety protection and UPOV membership

UPOV Report on the Impact of Plant Variety Protection demonstrated that in order to enjoy the full benefits which plant variety protection is able to generate, both implementation of the UPOV Convention and membership of UPOV are important. The introduction of the UPOV system of plant variety protection and UPOV membership were found to be associated with:

a. increased breeding activities,
b. greater availability of improved varieties,
c. increased number of new varieties,
d. diversification of types of breeders (e.g. private breeders, researchers),
e. increased number of foreign new varieties,
f. encouraging the development of a new industry competitiveness on foreign markets, and
g. improved access to foreign plant varieties and enhanced domestic breeding programs.

In order to become a UPOV member the advice of the UPOV Council in respect of the conformity of the law of a future member with the provisions of the UPOV Convention is required. This procedure leads, in itself, to a high degree of harmony in those laws, thus facilitating cooperation between members in the implementation of the system. 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. The breeder's right means that the authorization of the breeder is required to propagate the variety for commercial purposes. The UPOV Convention specifies the acts that require the breeder's authorization in respect of the propagating material of a protected variety and, under certain conditions, in respect of the harvested material. UPOV members may also decide to extend protection to products made directly from harvested material, under certain conditions.

UPOV Promotes without discrimination

The aim of the UPOV system is encourage breeding of new plant varieties for all types of farmers. The "Seminar on Plant Variety Protection and Technology Transfer: the Benefits of Public-Private Partnership" and the "Symposium on the Benefits of Plant Variety Protection for Farmers and Growers" demonstrated, for example, the way in which plant breeders' rights have been used by the public sector to transfer new varieties to both commercial and resource-poor farmers.

The UPOV system does not regulate varieties that are not covered or no longer covered by plant variety protection. Therefore many plant varieties can be replanted by a farmer without any authorization of the breeder. UPOV does not regulate any other system of intellectual property rights governing the protection of plants/plant varieties. It is necessary to consult the legislation in each UPOV Contracting Party in order to know the situation and the answer in that UPOV member.

UPOV with discrimination

Only the breeder of a new plant variety can protect that new plant variety. It is not permitted for someone other than the

breeder to obtain protection of a variety. There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc. A variety which is the object of a breeder's right needs to be both sufficiently uniform and stable in order to define the object of the right granted to the holder. The notion of uniformity ensures that the variety can be defined as far as is it necessary for the purpose of protection. This is indicated by the notion of sufficient uniformity, i.e., the criterion for uniformity does not seek absolute uniformity. The UPOV Convention links the uniformity requirement for a variety to the particular features of its propagation. This means that the level of uniformity required for truly self-pollinated varieties, mainly self-pollinated varieties, inbred lines of hybrid varieties, vegetatively propagated varieties, cross-pollinated varieties, mainly cross-pollinated varieties, synthetic varieties and hybrid varieties will, in general, be different. Furthermore, it relates only to the characteristics which are relevant for the protection of the variety.

As with the uniformity requirement, the criterion for stability has been developed to establish the identity of the variety as the subject matter of protection by ensuring that the relevant characteristics of the variety remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle.

On the contrary, the UPOV system encourages the development of new varieties of plants, therefore adding to diversity. The "breeder's exemption" in the UPOV Convention enables plant diversity to be available for further breeding activities because acts done for the purpose of breeding other varieties are not subject to any restriction by the breeder. This reflects the fact that access to protected varieties contributes to sustain greatest progress in plant breeding and, thereby, to maximize the use of genetic resources for the benefit of society.

Protection of varieties on the basis of its DNA profile

For a variety to be protected, it needs to be clearly distinguishable from all existing varieties on the basis of characteristics that are physically expressed, e.g. plant height, time of flowering, fruit colour, disease resistance etc. The DNA-profile is not the basis for obtaining the protection of a variety, although this information may be used as supporting information.

Sui-generis system

A sui-generis (of its own kind) system of protection is a Special system adapted to particular subject matter, as opposed To protection provide by one of the main systems of Intellectual property protection, e.g. the patent or copy right System. A special law for the protection of integrated circuits Is an example of sui-generis law. In this case, it means Countries can make their own rules to protect new plant Varieties with some form of IPR provided that such protection Is effective. The Agreement does not define the elements of an Effective system. One possible sui-generis system likely to be Recognized as effective is the UPOV system of Plant Breeders' Rights (PBRs) this initially developed in Europe, has now Been adopted by the industrialized countries, and is also being Adopted by an increasing number of developing countries (Geoff, 1999). The "effective sui generis system" referred to in Article 27.3(b) of the TRIPS Agreement is clearly intended to Be an alternative to the patent system. In this connection, it is Useful to recall that the UPOV system was also established, in 1961, as a special form of protection, in lieu of the patent System, covering only plant varieties and specifically adapted To plant varieties. The importance of Sui-generis system is Firstly, the sui generis system presents the possibility of an Additional option of choosing 'new forms of intellectual Property rights' which are not necessarily based on the existing

Ones such as patents or plant breeder's rights. Secondly, the idea of sui generis protection provides developing countries with the 'conceptual justification' to look beyond established categories of IPRs and protect certain categories of inventions in accordance with the specificities of the field concerned and the distinct needs of individual countries. Thirdly, it provides a foundation for integrating intellectual property rights and sustainable development (Dang Rohan & Chandni Goel, 2001). The scope of protection could be limited to cover only the reproductive parts of plants, or could be extended to include also harvested plant materials. Second, the TRIPs agreement does not prohibit the development of additional protection systems, nor does it prohibit the protection of additional subject matter to safeguard local knowledge systems and informal innovations as well as to prevent their illegal appropriation. Several elements could be added, such as community gene funds and the establishment of mediation procedures (public defender) for the protection of local interests or local registers (1999). Finally, this paper an historical analysis of the evolution of Intellectual propriety protection for plant varieties uncovered in several debates around theoretical issues on plant variety protection. In some main discussion seems to be still unsolved and possibly further complicated by recent technological changes.

Conclusion

The UPOV Convention established a "Union," the members of which agreed to make Available to breeders of other members of the Union the same access to protection for their Varieties as they made available to their own breeders. Any State and certain intergovernmental Organizations with appropriate plant variety protection legislation have the opportunity through UPOV membership to share in, and benefit from, the combined experience of the members of The Union and to contribute to the worldwide promotion of plant breeding. Each member of the Union has decided that a system of incentives based upon the Principles of the UPOV Convention will enhance plant breeding. States seek, from the introduction of plant variety protection, to increase national plant breeding activity, to encourage Investments from foreign breeders and to secure conditions under which national and foreign Breeders can develop, protect, produce and export varieties.

References

1. To see an illustrative example of a plant variety, please go to https://www.upov.int/overview/en/variety.html
2. A detailed explanation of the definition of "variety" is provided in document UPOV/EXN/VAR "Explanatory Notes on the Definition of Variety under the 1991 Act of the UPOV Convention"
3. Seminar on Plant Variety Protection and Technology Transfer: the Benefits of Public-Private Partnership
4. UPOV Report on the Impact of Plant Variety Protection

5. In addition to making plant variety protection available, other measures to encourage plant breeding activities include increased public funding for plant breeding, facilitating access to genetic resources and encouraging public-private partnerships. See https://www.upov.int/members/en/)
6. See document UPOV/EXN/BRD "Explanatory Notes on the Definition of Breeder under the 1991 Act of the UPOV Convention" Seminar on Plant Variety Protection and Technology Transfer: the Benefits of Public-Private Partnership
7. Under the UPOV Convention, the breeder's right is only granted where the variety is (i) new, (ii) distinct, (iii) uniform, (iv) stable and has a suitable denomination (see https://www.upov.int/overview/en/conditions.html).
8. Membership of UPOV can also be found at: http://www.upov.int/en/about/members/index.html
9. Unless otherwise indicated, reference to the UPOV Convention in this paper should be Understood as a reference to the latest Act of the Convention (the 1991 Act). The full text of UPOV Convention can be found at http://www.upov.int/en/publications/conventions/1991/content.html
10. The UPOV Test Guidelines are available on the UPOV Website at http://www.upov.int/en/publications/tg-rom/index.htm (see section concerning UPOV Activities And Bodies," paragraphs 75 to 77).