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**Plant Variety Protection and the Protection of
Traditional Knowledge**

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UPOV

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PLANT VARIETY PROTECTION AND THE PROTECTION OF TRADITIONAL KNOWLEDGE¹

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Introduction to Plant Variety Protection

1. Plant variety protection, also referred to as a “plant breeder’s right,” is an exclusive right granted to the breeder of a new plant variety to exploit that variety. It is a form of intellectual property right and is an independent *sui generis* form of protection tailored to the protection of new plant varieties.

2. Why should new plant varieties be protected? Breeding new varieties of plants requires a substantial investment in terms of skill, labor, material resources, and money, and may take many years (10 to 15 years in the case of many plant species). A new variety, once released in the market, can in many cases be readily reproduced by others so as to deprive its breeder of the opportunity to profit adequately from his investment. The granting to a breeder of a new variety the exclusive right to exploit his variety both encourages him to invest in plant breeding and contributes to the development of agriculture, horticulture and forestry.

International Union for the Protection of New Varieties of Plants

3. The International Union for the Protection of New Varieties of Plants (UPOV) was established by the International Convention for the Protection of New Varieties of Plants (the “UPOV Convention”). The parties to the Convention (“the member States”) undertake to grant plant breeders’ rights in respect of new plant varieties in accordance with the principles established in the Convention and thus on an internationally harmonized basis.

¹ This paper was presented at the UNCTAD Expert Meeting on “Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices” held in Geneva, from October 30 to November 1, 2000.

4. UPOV member States: As of September 24, 2000, there were 46 member States of UPOV, which are listed in BOX 1; the membership of UPOV has been expanding worldwide, many new members being developing countries. A further nineteen countries and two regional organizations have initiated with the Council of UPOV the procedure for becoming members of the Union². Many other non-member States currently have laws or proposals for laws to protect plant varieties. Information available to the Office of UPOV suggests that the number of States likely to have laws based on the UPOV Convention in the near term will be at least 110.

BOX 1: UPOV Member States

Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Kenya, Kyrgyzstan, Mexico, Netherlands, New Zealand, Norway, Panama, Paraguay, Poland, Portugal, Republic of Moldova, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Trinidad and Tobago, Ukraine, United Kingdom, United States of America, Uruguay
(46 countries as of September 24, 2000)

5. UPOV Convention: The UPOV Convention was signed in 1961 and entered into force in 1968. The Convention was revised in 1972, 1978 and 1991. The latest amendment in 1991 (the establishment of the 1991 Act) reflected some thirty years' experience of the operation of the Convention and the scientific and technical progress (e.g., the advent of biotechnology) during the period from 1961 to 1991.

6. Main functions of the UPOV Convention: The UPOV Convention has five main functions as shown in BOX 2.

BOX 2: Main Functions of the UPOV Convention

- **Standard rules for the grant of protection**
 - Novelty
 - Distinctness
 - Uniformity
 - Stability
 - Appropriate denomination
- **Minimum scope of protection**
- **Minimum duration of protection** - 20 years (trees / vines: 25 years)
- **Minimum number of plant genera and species** whose varieties must be protected
- Rules for **national treatment and priority** which regulate relations between member States

7. Special attention should be paid to the three technical criteria: distinctness, uniformity and stability. These criteria must be satisfied if a variety is to be identifiable. The two non-technical criteria are that the variety must be "new" in the sense that it must not have been sold or offered for sale prior to certain specified dates and it must be given an acceptable denomination. The Convention forbids the addition of any other condition for the grant of protection.

8. TRIPS Agreement and the UPOV system: Article 27.3(b) of the TRIPS Agreement provides that "... Members shall provide for the protection of plant varieties either by patents or

² Azerbaijan, Belarus, Costa Rica, Croatia, Egypt, The former Yugoslav Republic of Macedonia, Georgia, Honduras, India, Kazakhstan, Lithuania, Morocco, Nicaragua, Republic of Korea, Romania, Tajikistan, Tunisia, Venezuela and Zimbabwe as well as the European Community and the African Intellectual Property Organization (OAPI)

by an effective *sui generis* system or by any combination thereof.” The UPOV system for the protection of new plant varieties can be considered as the best known example of a *sui generis* system which meets all requirements for an effective plant variety protection system.

Traditional Knowledge and the UPOV Convention

9. Traditional Knowledge and the UPOV Convention: The UPOV Convention is an international convention exclusively dealing with the protection of new plant varieties and is silent on the subject of traditional knowledge and genetic resources. However, it should be noted that the UPOV Convention does not forbid the granting or creation of rights in respect of traditional knowledge, or categories of plant material which are not plant varieties protected under the UPOV Convention. UPOV member States are free to establish a special system for the purpose of the protection of traditional knowledge so long as it does not conflict with the UPOV Convention.

10. Protection of Traditional Knowledge by Plant Variety Protection Systems: The subject matter of plant variety protection is the plant variety itself. The plant variety must exist physically to be protected. Knowledge frequently does not exist physically and is not appropriate for protection under the UPOV system. All new varieties meeting the distinctness, sufficient uniformity, stability and novelty criteria are protectable. New varieties developed by indigenous communities or farmers with traditional knowledge which have a fixed identity when reproduced may, in many cases, meet the UPOV criteria and be protectable.

11. In particular, it should be noted that the process of applying for plant variety protection is relatively simple and is normally completed by applicants themselves without the help of a legal specialist. As a result, transaction costs incurred in relation to the application and registration for plant variety protection are generally reasonably low. This feature facilitates the applications of small plant breeders, including individual farmers and local communities. Accordingly the UPOV system could be used as a tool for promoting the plant varietal innovations of indigenous and local communities and thus the commercialization of their traditional knowledge.

Special features of the UPOV Convention which might be relevant to discussions on the protection of the interests of farmers and local communities

12. As mentioned earlier, the UPOV Convention is silent on the subject of traditional knowledge and genetic resources as such. However, this does not mean that the UPOV Convention is insensitive to concerns arising from the application of the principles of the Convention on Biodiversity or the International Undertaking on Plant Genetic Resources. It should be noted that the plant variety protection system under the UPOV Convention has several special features relevant to the protection of the interests of farmers and local communities.

13. Distinctness: A variety should be distinct in order to be protected. Article 7 of the 1991 Act of the UPOV Convention provides that

“The variety shall be deemed to be distinct if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filling of the application.”

- “Variety” is defined in Article 1(vi) of the 1991 Act in such a way that plant groupings which do not satisfy the requirements for protection, e.g. some landraces, may still be varieties which

are a matter of common knowledge for distinctness purpose³. This means that new varieties that are candidates for protection should be distinct from all other known varieties including those landraces and traditional varieties, as well as commercialized or protected varieties, which meet the definition of Article 1(vi) and have a reasonably fixed identity when reproduced. The UPOV system is designed to ensure that breeders cannot legally seek protection for existing landraces or local varieties as such or for varieties that are not clearly distinguishable from such landraces or local varieties.

14. Sufficient Uniformity and Stability: In order to grant and enforce plant variety protection, the physical identity of the variety must be fixed in such a way that material of the variety can be identified as such, for example, in the field or in the seed cleaning plant. If necessary, as a last resort, it must be possible to convince a judge in a court of law that particular plant material is material of a particular protected plant variety.

15. The UPOV Convention analyzes the question of varietal identity into the components of distinctness, sufficient uniformity and stability (Articles 7 to 9 of the 1991 Act). A variety must be distinct from other known varieties in order to be protected. Establishing the distinctness of a variety requires that it be sufficiently uniform in its relevant characteristics to enable a description to be prepared which will distinguish the variety from other varieties of the same species. It seems obvious that once this description is established, the variety must, when reproduced, continue to exhibit these characteristics, that is to say, it must be stable. If its physical characteristics change whenever it is reproduced, it will have no fixed identity to which a legal right can be attached. Uniformity and stability are not, as such, objectives of the UPOV Convention; they are criteria which are essential to identify the subject matter of protection and to enable its effective enforcement.

16. Some have proposed alternative criteria to distinctness, relative uniformity and stability, such as “identifiability” for the protection of plant varieties, especially for categories of plant material other than new varieties protected under the UPOV system. However, such suggestions fail to consider in any detail how varieties are distinguished from each other in practice. Consideration should be given as to whether such alternative approaches can, in practice, effectively fix the identity of the protected material and enable its effective protection.

17. Prior Informed Consent and Plant Variety Protection: It has been proposed that the possession of prior informed consent (PIC) be required to be indicated on the application of certain new varieties. However, such a requirement would not fulfill the objective of preventing the sale of varieties developed without PIC since such varieties could still be marketed without the benefit of protection. It should be noted, however, that the UPOV Convention does not forbid a regulatory requirement of PIC for the marketing of plant material.

³ Article 1(vi) of the 1991 Act of the UPOV Convention provides that

“variety’ means a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a breeder’s right are fully met, can be

- defined by the expression of the characteristics resulting from a given genotype or combination of genotypes
- distinguished from any other plant grouping by the expression of at least one of the said characteristics and
- considered as a unit with regard to its suitability for being propagated unchanged”.

18. Breeder's Exemption: The "breeder's exemption" is one of the most important provisions of the UPOV system. In order to ensure the continuity and further development of plant improvement, under the UPOV Convention, a protected plant variety must be available without restriction, for use by others (other breeders, farmers, local communities, etc.) as starting material for the development of other new varieties. The breeder of the resulting new variety must also be free, with one narrow exception⁴, to market his new variety without payment to the breeder of the protected variety used as a germplasm source. The UPOV concept is that, if the breeder of a variety uses the variety of another breeder as a germplasm source, his own variety should in its turn be freely available. Without this concept, the overall progress in plant breeding and therefore benefits for society will be greatly inhibited. It can be suggested that this needs to be carefully considered for any system of protecting traditional varieties or knowledge.

BOX 3-1 Exceptions to the Breeder's Rights (Article 15 of the 1991 Act)

(1) [Compulsory exceptions] The breeder's right shall not extend to
 (i) acts done privately and for non-commercial purpose
 (ii) acts done for experimental purposes and
 (iii) acts done for the purpose of breeding other varieties, and except where the provisions of Article 14(5) apply, acts referred to in Article 14(1) to (4) in respect of such other varieties.
("Breeder's exemption")

19. The UPOV system is often contrasted with the patent system in which protected plant material may not be available for use by others as a germplasm source. The UPOV system takes into account the nature of plant breeding and endeavors to balance the interests of breeders/contributors to the improvement of genetic material throughout different generations.

20. This principle of free access to protected varieties can be considered as a form of benefit sharing from the utilization of genetic material which is already available. This has been well recognized in discussions on the revision of the International Undertaking on Plant Genetic Resources.

21. Farmer's Privilege: This provision is another special provision of the UPOV Convention. UPOV is conscious of the concerns of farmers to save part of their harvest of some crops in order to plant a crop for the next season ("farm-saved seed"). The 1991 Act of the UPOV Convention allows member States to, in light of national circumstance, exclude from the breeder's right the saving of part of the harvest of a holding for re-use as seed on the same holding. In this respect, member States are free to establish appropriate provisions to balance the interests of both farmers and breeders in light of common practices in the country and national circumstances.

BOX 3-2 Exceptions to the Breeder's Rights (Article 15 of the 1991 Act)

(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)

⁴ The exception is the case of essentially derived varieties. The 1991 Act extends the breeder's right to varieties that are essentially derived from the breeder's variety. The new principle is designed to protect the breeder in circumstances where others make a discrete change in his variety (e.g., the addition of a single gene by genetic engineering) and seek to exploit the changed variety.

22. Exception for Private and Non-commercial Acts: The 1991 Act of the UPOV Convention contains a provision in Article 15(1) which has no equivalent in the 1978 Act. It requires States which accede to the 1991 Acts to shelter from the effect of the protection right all acts carried out for private and non-commercial purposes. As a result of this provision all acts with a protected variety of indigenous and local communities for subsistence purposes clearly fall outside the breeder's right. Equally it would seem possible for States, if they so wish, to exclude informal non-commercial seed exchanges between farmers from the effects of the breeder's right under this provision.

Importance of establishing an effective plant variety protection system for the development of agriculture

23. Projected increases in world population call for future increases in world food supplies which should substantially exceed the increases achieved in the past. In order to overcome this imminent problem, the continuous development of improved plant varieties is of high priority. The establishment of an effective plant variety protection system is indispensable to promote breeding activities by giving private breeders enough incentive to invest money and time for breeding, particularly at a time when substantial increases in public investment in breeding are unlikely.

24. The experience of UPOV member States has shown that plant variety protection increases the number of breeders and varieties and, consequently, widens the spectrum of improved varieties available to farmers, with a potential increase in genetic variability. Over 100,000 new varieties have been protected under the UPOV system since it was first introduced. At the present time, over 50,000 are currently protected. Some 5,000 new varieties receive a grant of protection in UPOV member States each year.

25. Farmers clearly benefit from the supply of new improved varieties resulting from the establishment of a plant variety protection system. While the need to increase respect for traditional knowledge is recognized, this objective should be addressed without jeopardizing the effectiveness of plant variety protection systems and impeding the progress of breeding.

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