
Committee on Trade and Environment

**THE RELATIONSHIP BETWEEN THE CONVENTION ON BIOLOGICAL DIVERSITY
(CBD) AND THE AGREEMENT ON THE TRADE-RELATED ASPECTS OF
INTELLECTUAL PROPERTY RIGHTS (TRIPS);
WITH A FOCUS ON ARTICLE 27.3 (B)**

Background Note by the Secretariat

1. This Note has been prepared in response to a request made by the Committee on Trade and Environment (CTE) for a factual paper on the relationship between the Convention on Biological Diversity (CBD) and the Agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPS), in particular with respect to Article 27.3(b) (WT/CTE/M/21). In requesting this Note, some Members expressed an interest in how countries are implementing *sui generis* systems for plant variety protection. As the Secretariat had previously prepared three background documents on various aspects of the relationship between the TRIPS Agreement and the CBD, this Note will not repeat the information already provided in those documents and will present, instead, the results of various country studies on the implementation of *sui generis* systems, and examples of legislation enacted to give effect to the CBD.¹

2. This Note is divided into four sections: section (I) provides an overview of existing international instruments relevant to plant variety protection; section (II) introduces the information provided by some WTO Members to the TRIPS Council on their *sui generis* systems; section (III) presents three country studies on the implementation of *sui generis* systems based on the International Convention for the Protection of New Varieties of Plants (UPOV Convention); and section (IV) presents examples of legislation enacted to implement the CBD.

I. PLANT VARIETY PROTECTION – RELEVANT INTERNATIONAL INSTRUMENTS

3. This section presents existing international instruments relevant to plant variety protection, in the order of their creation. The first instrument to come into being in 1961 was the UPOV Convention, which is administered by an intergovernmental organization known as the International Union for the Protection of New Varieties of Plants (UPOV). It was followed by the Food and Agriculture Organization's (FAO) International Undertaking on Plant Genetic Resources, the United Nations Environment Programme's (UNEP) CBD, and, in the end, the TRIPS Agreement.

A. THE UPOV CONVENTION

4. The UPOV Convention was developed in 1961 and aims to ensure that the member states of UPOV (the intergovernmental organization created by the Convention to administer its application) acknowledge the achievements of breeders of new plant varieties by making available to them an exclusive property right, known as the Plant Breeder's Right (PBR). Protection is afforded to new

¹The background documents previously prepared by the Secretariat include: *Environment and TRIPS* (WT/CTE/W/8), *Factors Affecting the Transfer of Environmentally-Sound Technology* (WT/CTE/W/22), and *The Convention on Biological Diversity and the Agreement on the Trade-Related Aspects of Intellectual Property Rights* (WT/CTE/W/50).

varieties of plants under the UPOV Convention both as an incentive to the development of agriculture, horticulture and forestry and to safeguard the interests of plant breeders. The Convention was revised in 1972, 1978, and 1991. Its 1991 Act entered into force in 1998.² At present, 44 countries are party to UPOV under various Acts³

5. To be eligible for protection under the UPOV Convention, new plant varieties must be (1) distinct from existing, commonly known varieties, (2) sufficiently uniform, (3) stable, and (4) new, in the sense that they must not have been commercialized prior to certain dates (established by reference to the date of application for protection). Under the Convention, parties commit themselves to adhere to national treatment in the granting and protection of PBRs. In other words, they must not discriminate between plant breeders on the basis of their nationality.

6. Both the 1978 and 1991 Acts set out the minimum scope for PBRs and offer parties the possibility of taking national circumstances into account in their legislation. In setting this minimum scope, the 1991 Act states that the breeder's authorization must be obtained with respect to the use of the propagating material of his/her protected variety for any of the following acts: (1) production or reproduction (multiplication), (2) conditioning for the purpose of propagation, (3) offering for sale, (4) selling or other marketing, (5) exporting, (6) importing, and (7) stocking for any of the purposes mentioned from 1-6 above.

7. The 1991 Act goes beyond that of 1978 in four principal ways. First, it provides for the eventual protection in all parties to UPOV of all plant genera and species, and does not permit parties to confine themselves to a set number. Second, whereas under the 1978 Act, the minimum right of breeders did not extend to seeds saved and used on a farm (what is known as farmer's privilege), under the 1991 Act, the minimum breeder's right extends to all seed production of a protected variety. However, each UPOV member state is free, in light of national circumstances, to 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.⁴

8. Third, the 1991 Act extends the breeder's protection in very limited circumstances to the harvested material of the variety (the fruit of a fruit tree for instance) so as to enable him/her to be rewarded for some forms of its exploitation. To explain this further, under the 1978 Act, a variety could be taken to a country which did not provide protection for new plant varieties and used there to produce end products (fruits for instance), which would be exported back to the country where the breeder's variety was protected. The breeder received no remuneration from this exploitation, but under the 1991 Act, he/she currently does. Fourth, under the 1991 Act, varieties that are "essentially derived" from a protected variety can themselves be protected, but cannot be marketed without the permission of the breeder of the protected variety from which they were derived. This change was introduced to address situations under the 1978 Act in which a protected variety could be modified in a very limited respect (through the addition of a gene for instance) and, provided that it was clearly distinguishable from the protected variety, separately protected without any obligation to the breeder of the protected variety. Therefore, the 1991 Act protects breeders from situations in which limited changes are made to their varieties, then exploited.

²The 1978 Act became closed for accession on 24 April 1998. However, the Council of UPOV decided in April 1997 that States which had started the process of accession to the 1978 Act prior to its closing, should be allowed a period of twelve months to complete their accession process. The effect of this decision has been to permit them to deposit their instruments of accession all the way up to 24 April 1999.

³A list of parties to the UPOV Convention is contained in Annex 2.

⁴It has been the practice of farmers since the beginning of agriculture to save part of their harvest of some crops, particularly annual cereal and pulse crops, in order to plant crops for the next season. Today, many farmers continue to plant at least part of their crops with their own saved seed. Breeders, however, would prefer farmers to purchase all the seed of their varieties, thus rewarding them more fully for their use. Balancing the rights of farmers against those of breeders is a significant challenge for policy makers. The 1978 and 1991 Acts of the UPOV Convention differ on this issue.

9. Under both the 1978 and 1991 Acts the authorization of a PBR holder is not required for the use of his variety for research purposes. Like all IPRs, PBRs are granted for a limited period of time, at the end of which varieties protected by them pass into the public domain. Under the 1991 Act, the duration of protection is 20 years, except for vines and trees, where it is 25. The rights are also subject to controls against possible abuse in order to safeguard the public interest.

10. According to the UPOV Office, "On February 1, 1999, so far as the Office of UPOV was aware, the only *sui generis* legal systems for the protection of plant varieties in any country which were not based upon the principles of the UPOV Convention, were the plant patent system of the United States of America for the protection of asexually reproduced varieties and a similar system in the patent law of the Republic of Korea. The conditions for the grant of protection under these plant patent systems differ somewhat from the UPOV system."⁵

B. THE INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

11. The International Undertaking on Plant Genetic Resources, a non-legally binding instrument, was adopted by Resolution 8/83 of the 1983 FAO Conference, and was interpreted and complemented by three Conference Resolutions (4/89, 5/89 and 3/91), now annexed to the Undertaking (they introduce the concepts of national sovereignty over genetic resources and Farmers' Rights). The Undertaking seeks to (1) ensure that the need for conservation is globally recognized and that sufficient funds for this purpose are made available, (2) assist farmers and farming communities in all regions of the world, but especially in the areas of origin and diversity of plant genetic resources, in the protection and conservation of these resources, and of the natural biosphere, and (3) allow farmers, their communities and countries to participate fully in the benefits derived, at present and in the future, from the improved use of plant genetic resources, through plant breeding and other scientific methods. A total of 112 countries have notified their adherence to the Undertaking, whose implementation is being monitored by the Commission on Genetic Resources for Food and Agriculture.

12. FAO Resolution 4/89 recognizes the importance of Farmers' Rights (with farmers being the providers of raw materials for innovation), as well as PBRs (with breeder's being the providers of new technology). It takes note of the contribution that farmers of all regions have made in the field of plant genetic resources, and this forms the basis for the concept of Farmers' Rights. These it defines as "rights arising from the past, present and future contribution of farmers in conserving, improving and making available plant genetic resources, particularly those in centers of origin/diversity."

13. When the Undertaking was first developed, many believed that the concept of Farmers' Rights was designed to act as a counterweight to the UPOV Convention's PBRs. Farmers' Rights under the Undertaking were designed to recognize that plant genetic resources were different from natural mineral resources, like coal and oil, since assuming that plant genetic resources were mere gifts of nature would have failed to give credit to the knowledge and resource management practices of traditional communities who nurtured them. Following such speculations, however, the FAO issued an interpretation of the Undertaking in 1989 which stated that "plant breeder's rights as provided for under UPOV ... are not incompatible with the International Undertaking."⁶

⁵This information was submitted by the UPOV Secretariat to the TRIPS Council in a document entitled *Review of the Provisions of Article 27.3 (b): Information from Intergovernmental Organizations* (IP/C/W/130). The document goes on to state that "the effects of the two systems are similar and the United States of America first became a member State of UPOV on the basis of its plant patent law as a result of the enabling provision in Article 37 of the 1978 Act."

⁶André Heitz (Director-Counsellor at UPOV), *The Interaction Between Plant Breeder's Rights and the Conservation of Plant Genetic Resources*, Briefing Workshop on Plant Variety Protection Under the UPOV Convention organized by UPOV, Cambridge, 5-16 July 1999.

14. In 1991, the FAO Conference adopted Resolution 3/91 to implement Farmers' Rights through an international fund on plant genetic resources that would be used to support plant genetic conservation and utilization programmes. The idea behind the fund was that farmers themselves would not be given control over it, but that the FAO-administered fund would be disbursed to governments so they could uphold Farmers' Rights and work towards improved plant conservation. As the 1983 Undertaking was only voluntary, contributions to the fund were only provided on a voluntary basis as well and proved to be insufficient.

15. In 1993 the FAO unanimously adopted Resolution 7/93 that requested the Commission on Genetic Resources to provide a forum for negotiations among governments to (1) harmonize the Undertaking with the CBD (which had come into existence in 1992), (2) consider the issue of access on mutually agreed terms to plant genetic resources, including *ex situ* collections, and (3) give consideration to how Farmers' Rights could be realized. These had not been implemented as a mechanism giving practical expression to these rights had not been created.⁷

16. According to the Commission on Genetic Resources for Food and Agriculture, the revised Undertaking will become a legally-binding instrument. The process of revising the Undertaking, which was started in 1994, is expected to be completed in the year 2000. At present, a non-bracketed text on the issue of Farmers' Rights has been reached, which states that those Rights are to be achieved through national legislation (the previous text, through Resolution 3/91, had put the emphasis on the international fund). Discussion is currently under way on whether the revised Undertaking will be a stand-alone text, or become a protocol to the CBD.

C. THE CBD

17. Negotiated under the auspices of UNEP, the CBD was opened for signature in 1992 and entered into force in 1993. The Convention's objectives are (1) the conservation of biological diversity, (2) the sustainable use of its components, and (3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The Convention is based on the principle that "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction and control do not cause damage to the environment" (Article 3). As of June 1999, 175 countries have ratified the Convention.

18. The CBD emphasizes the importance of the *in situ* conservation of genetic resources (Article 8). Article 8 (j) stipulates that, as far as possible and appropriate, parties are to "respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation of sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices."

19. Articles 15 and 16, dealing with Access to Genetic Resources and Access to and Transfer of Technology, are amongst the most relevant for this Note. Article 15 recognizes the sovereign right of States over their natural resources, and that the authority to determine access rests with national governments. It stipulates that access be on mutually agreed terms and be subject to the prior informed consent of the party providing the resource, unless otherwise determined by that party. It also calls upon parties to share in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the party

⁷They are being re-examined in response to the calls made for their realization in Chapter 14 of Agenda 21, and Resolution No. 3 of the 1992 Nairobi Final Act for the adoption of the CBD.

providing the resources, on mutually agreed terms. Article 16 is the main provision dealing with access to and transfer of technology, and contains numerous explicit references to IPRs. It calls upon parties, amongst other things, to provide and/or facilitate access to and transfer of technology to developing countries on fair and most favourable terms. Important to note is that the CBD is a framework Convention that needs implementing measures, and it is up to its parties to devise these through national legislation.

20. As previously stated, the relationship between the FAO Undertaking and the CBD is still in the process of being defined. With respect to UPOV and its relationship to the CBD, the UPOV Secretariat has indicated that it sees synergies between the two Agreements. It has stated that "The UPOV Convention – which represents an effective *sui generis* system for the purposes of the TRIPS Agreement – contributes to the realization of all the objectives of the CBD It will be recalled here that plant variety protection promotes the creation of new and improved varieties, and also their rapid and efficient release to farmers."⁸

D. THE TRIPS AGREEMENT

21. As information was already provided to Members on the provisions of the TRIPS Agreement relevant to the CBD in the three background Notes previously prepared by the Secretariat in this area, this section will only recall that the TRIPS Agreement addresses the protection of new plant varieties in Section 5 which deals with patents. Article 27.3 of the Agreement allows WTO Members to make certain exclusions from patentability. Subparagraph (b) of that Article makes explicit reference to the need to protect new plant varieties either by patents or by an effective *sui generis* system or a combination of thereof. It reads:

Members may exclude from patentability:

- (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.

II. INFORMATION PROVIDED TO THE TRIPS COUNCIL ON THE IMPLEMENTATION OF ARTICLE 27.3 (B)

22. At its meeting of 1-2 December 1998, the TRIPS Council agreed to initiate the review due under Article 27.3(b) through an information-gathering exercise. In this connection, the Council invited Members that were already under obligation to apply Article 27.3(b) to provide information on how the matters addressed in this provision were treated in their national laws. Other Members were invited to provide such information on a best endeavours basis. In response to the Council's invitation, information was received from Australia, Bulgaria, Canada, the Czech Republic, the European Communities and their member States, Hungary, Japan, Korea, Morocco (referred to as MAR in Annex 1), New Zealand, Norway, Poland, Romania, Slovenia, South Africa (referred to as ZAF), Switzerland (referred to as CHE), the United States and Zambia.⁹

⁸André Heitz (Director-Counsellor at UPOV), *The Interaction Between Plant Breeder's Rights and the Conservation of Plant Genetic Resources*, Briefing Workshop on Plant Variety Protection Under the UPOV Convention organized by UPOV, Cambridge, 5-16 July 1999.

⁹This information was circulated to Members (IP/C/W/125/Add).

23. At its meeting of 17 February 1999, the Council agreed that, to facilitate an analysis of the material provided by Members, the Secretariat be requested to compile, in an informal note, the information in the form of a structured summary overview.¹⁰ The information pertaining to the protection of plant varieties has been incorporated in Annex 1 to this Note. Annex 1 indicates that out of the 18 respondents, 17 have *sui generis* systems in place, all of which follow the UPOV model (response to question 2 in Annex 1).¹¹

24. Both the United States and Korea have provided the TRIPS Council with information concerning their plant patent systems (IP/C/W/125/Add.5 and IP/C/W/125/Add.9). These systems are somewhat different from the normal patent systems in these countries applicable to inventions. They can thus be recognized as a form of *sui generis* protection of plant varieties. Annex 1 provides a summary overview of the information provided by both the United States and Korea and the accompanying explanatory note to the Annex addresses the United States Plant Patent Act under questions 1, 4, 7, 9, 11.

III. COUNTRY STUDIES ON *SUI GENERIS* SYSTEMS BASED ON THE UPOV MODEL

25. While numerous country studies exist on *sui generis* systems based on the UPOV model, the Secretariat found few that were recent, and even fewer on the experience of developing countries. This section presents the results of two studies on developing countries, and one on a developed country, that have been recently prepared by high ranking officials in the field of plant variety protection.

A. ARGENTINA¹²

26. In this country study, Lavignolle explains that the agricultural sector has always been one of the most important and dynamic in Argentina, with sunflower oil and flour, soya and soya flour, sorghum, and corn constituting some the country's main exports. The agricultural sector could not have become as important as it did, had efforts not been expended to encourage new plant varieties. In 1973, Argentina passed a law entitled *Ley de Semillas y Creaciones Fitogenéticas* (No. 20.247) which regulated the production and commercialization of seeds, as well as recognized PBRs. Due to the passage of this law, Argentina was able to adhere to the 1978 UPOV Convention on 25 December 1994.

27. Prior to the passage of the 1973 law, a 1935 law entitled *Ley de Granos* (No. 12.253) prevailed. The latter incorporated a section on the promotion of genetic resources, which subjected the marketing of new plant varieties to approval by the *Tribunal de Fiscalización*. The Tribunal determined if varieties were to be approved on the basis of their agricultural value, and registered them for a trial period of 3 years. Depending on the results of this period, varieties were either registered permanently or withdrawn. Registration took place in the Red Oficial de Ensayos Territoriales (ROET), whose seeds division was responsible for the receipt of registration forms. Under the old system, breeders of plant varieties did not receive protection. However, during the three year trial period, they were allowed to be the only persons to commercialize their plant variety. At the

¹⁰The TRIPS Council, *Review of the Provisions of Article 27.3(b); Synoptic Tables of Information Provided by Members*, Job. No. 2689.

¹¹ Since the preparation of the summary overview contained in Annex 1, the Slovak Republic has also provided information on its implementation of Article 27.3 (b) which was circulated to Members (IP/C/W/Add.18).

¹²Raimundo Lavignolle (Director del Registro de Variedades del Instituto Nacional de Semillas de la Secretaria de Agricultura, Ganaderia, Pesca y Alimentación de Argentina), *La Experiencia Argentina En La Aplicación De La Protección A Las Obtenciones Vegetales*, UPOV Curso De Formación Sobre La Protección De Las Obtenciones Vegetales Para Países Latino Americanos, Madrid, 8-24 June 1998. As this document was only available in Spanish, Spanish titles and names of institutions have been maintained.

time, work on plant varieties was centralized in the Ministry of Agriculture. The involvement of the National Institute of Agricultural Technology (INTA) and the private sector was limited to the corn, sunflower and wheat sectors.

28. In the 1950s and 60s, the first corn and sorghum hybrids appeared in Argentina, and this development was due to, among other factors, an increase in the number of foreign enterprises operating in the country's agricultural sector. It was recognized that to encourage new plant varieties greater investments were needed, and that seed quality and proper denomination needed to be better ensured. Changes in the international seed industry (such as the development of the 1961 UPOV Convention) influenced the developments in Argentina which subsequently took place.

29. Under the 1973 law, Argentina came to recognize PBRs. The law (1) allows breeders to establish property rights over their new plant varieties, (2) states that PBRs shall not prevent others from using the protected varieties for the creation of new plants and that such use does not require the breeder's authorization, (3) establishes the right of farmers to employ protected seeds for their own use, and (4) creates the *Registro Nacional de la Propiedad de Cultivares* (RNPC) to protect the above-mentioned rights. The law allows all species to be protected, and its implementing decrees allow the duration of protection to vary between 10-20 years (later changed to 15-20 years) depending on the species. New varieties could be registered in Argentina at the time if they were distinct, uniform, stable (internationally known as the "DUS" criteria) and had adequate denomination.

30. Implementing decree No. 2183 of November 1991 was subsequently adopted to enable Argentina to become party to UPOV. It introduces the requirement of "novelty" for plant variety protection and extends the protection period to 20 years for all species. The decree allows PBR holders, amongst other things, to produce or reproduce, sell, export, import, and advertise or exhibit their protected varieties. Another decree established the *Instituto Nacional de Semillas* (INASE) to take charge of the certification and registration of seeds, the control of seeds trade, the extension of PBRs, the imposition of penalties upon infringement, etc. The last hurdle which Argentina had to overcome to adhere to UPOV, was that of meeting the requirement of national treatment with respect to PBRs. As both INSA and the private sector were in favour of Argentina's accession to UPOV,¹³ they explained the benefits of adherence to legislators and national treatment was accepted.

31. Lavignolle explains that Argentina's accession to UPOV was of tremendous benefit to the country's agricultural sector. Whereas, prior to joining UPOV, 70 per cent of all PBRs were extended to varieties of national origin and 30 per cent to foreign varieties, this changed. In 1997, a total of 171 PBRs were granted, 47 per cent of which were for national varieties, while 53 per cent were for foreign ones. This was not caused by the displacement of local varieties, since the number of national varieties granted PBRs following adherence to UPOV rose from 70 to 80. Lavignolle foresees that these trends will continue in future, and that varieties with no local equivalents will continue to be introduced to the agricultural sector's benefit. Today, over 70 different plant species are protected in Argentina.

B. KENYA¹⁴

32. In presenting the Kenyan experience in new plant variety protection, Kedera explains that to comply with the provisions of the TRIPS Agreement, countries have one of four choices: (1) to provide plant variety protection through patents, (2) to join the UPOV Convention, whether under the

¹³These changes were occurring in parallel to public sector reform in Argentina.

¹⁴C. J. Kedera (Managing Director, Plant Health Inspectorate Service (KEPHIS), Nairobi), *National Experience and Views on Implementing Sui Generis Systems: Kenya*, UPOV-WIPO-WTO Joint Symposium on The Protection of Plant Varieties under Article 27.3(b) of the TRIPS Agreement, Geneva, 15 February 1999.

1978 or 1991 Act, (3) to provide suitable plant variety protection without joining UPOV, or (4) to devise a *sui generis* system which is better suited to national interests and which takes into account the demands of local communities for protection. He explains that Kenya, an exporter of horticultural crops, has chosen to join UPOV under its 1978 Act.

33. In 1972, Kenya enacted the Seed and Plant Varieties Act, which entered into force in 1975. The main objectives of the Act are to: (1) regulate transactions in seeds, including their testing and certification, (2) establish an index of the names of plant varieties and impose restrictions on the introduction of new varieties, (3) control the importation of seeds and prevent harmful cross pollination, (4) provide proprietary rights to persons who breed or discover new varieties, and (5) establish a tribunal for appeals and other proceedings. The Act is intended to protect both the seed industry and consumers. To protect the seed industry, the Minister of Agriculture may prevent the importation into Kenya of seeds, which, if used as reproductive material, would harm domestic plants through cross-pollination or other means. Similarly the Minister may restrict the importation of seeds not suitable for use in Kenya. To protect consumers, the Act introduces provisions for civil liability.

34. Part V of the Act contains extensive provisions for the protection of the proprietary rights of plant breeders with regard to the breeding as well discovery of new plant varieties (from among species designated by the Minister of Agriculture). Those rights may be exercised up to 25 years, depending on the type of plant variety. The rights confer on the plant breeder the exclusive right to reproduce or authorize others to produce the propagating material of the variety for commercial purposes, to commercialize it, and export it or keep it in stock for future export or sale. The plant breeder whose rights are infringed, may seek redress through judicial proceedings, by way of injunction, damages, etc. While these provisions existed in the 1972 Act, they were never implemented. In practice, the Act was only applied with respect to the certification of seeds, and not with regard to PBRs.

35. The 1972 Act was revised in 1977 and 1991 to take account of developments in the international seed industry. In addition, Seeds and Plant Varieties regulations were developed in 1994 to elaborate on PBRs. Under the 1994 regulations, the Plant Breeders' Rights Office of Kenya was established. In addition, the government decided to establish the Kenya Health Inspectorate Service, known as KEPHIS (under which the Plant Breeders' Rights Office operates) for seed quality control, plant quarantine services, soil and plant tissue analysis at farm level, radiation and pesticide residue monitoring, registration of PBRs, liaison with the UPOV Secretariat, approval of all import and export licenses for plants and seeds, etc.

36. Since countries can only join the UPOV Convention after their laws are reviewed for their conformity by UPOV, in 1996, Kenya requested a review of its 1972 Seed and Plant Varieties Act (on the basis UPOV's 1978 Act). According to Kedera, the Kenyan Act was found to conform with the 1978 UPOV Convention, and only a few adjustments needed to be made. The adjustments were introduced, and Kenya became a party to 1978 UPOV Convention on 13 May 1999.

37. Kenya's Plant Breeders' Rights Office is currently responsible for all issues pertaining to PBRs, such as the processing of applications and the testing of varieties. Since its establishment the Office has received over 220 PBR applications, mainly for horticultural crops. Roses account for approximately half of all applications. Numerous breeders from France, the Netherlands, Germany, Israel, the United States, South Africa, Italy, Spain, Japan and Kenya have applied for plant variety protection.

38. In assessing the Kenyan experience in plant variety protection, Kedera states that revision of the 1972 Seed and Plant Varieties Act, although having required only minor amendments for conformity with the 1978 UPOV Convention, required consultations with a multitude of stakeholders and policy makers. According to him, the implementation of PBRs "resulted in some hardships to

some small scale farmers who depended on old varieties." He explains that as Kenya had a long history of breeding different food crops, numerous varieties existed on the market prior to the introduction of PBRs. Therefore, "The office [Plant Breeders' Rights Office] has to decide on the mechanism for granting rights to breeders and handling the novelty requirement of these old varieties while at the same time ensuring availability of the variety to the farming community. Most varieties were bred by public institutions, for the public good. The introduction of PBRs must accommodate the expectations of the public in ownership of these varieties." He explains that the success of the current system hinges on the education and awareness raising of farmers and breeders on PBRs, and concludes by saying that "Farmers issues (rights, the Convention on Biological Diversity, etc.) will need to be addressed."

C. THE UNITED KINGDOM (UK)¹⁵

39. In this country study, Fox explains that plant breeder's rights are relatively new in the UK. The idea of having them originated in the late 1950s, on the basis of a report from a committee that was appointed to consider transactions in seeds. The report laid the foundation for the UK's participation in the development of the 1961 UPOV Convention, and also formed the basis of the Plant Varieties and Seeds Act of 1964, which first established PBRs. The UK was the first country to ratify the 1961 UPOV Convention in September of 1965.

40. Prior to the introduction of the 1964 Act, most plant breeding of agricultural and horticultural crops was undertaken by state-supported institutes. The committee had noted that "the commercial breeder who devotes himself solely to plant improvement and seeks to make a living from it, is almost extinct." In contrast, foreign breeders had a significant share of the UK's market for a range of crops. For example, in 1959, just before the 1961 UPOV Convention was signed, over 90 per cent of the UK wheat acreage and approximately 80 per cent of barley and oats were sown using foreign bred varieties.

41. Fox explains that there was a clear recognition in the UK of the contribution which plant breeding could make to the success of agriculture and horticulture, to industries dependent on their produce, and to increased efficiency in food production. It was against this background that the UK, like a number of other European countries, decided to promote private sector investment in plant breeding and to increase the returns from state-supported breeding programmes. PBRs were therefore introduced to encourage, reward and protect innovation in plant breeding. The introduction of PBRs in the UK was successful in encouraging private sector involvement in plant breeding, and together with the government's privatization policies in the 1980s, resulted in a complete change in the pattern of plant breeding. Today, most plant breeding in the UK takes place in the private sector, and state financed work is now confined to potatoes and grass.

42. The first PBRs legislation introduced in the UK in 1964 gave effect to the 1961 UPOV Convention. Rights were confined to the sale or production for sale of propagating material in a protected variety. A number of small changes to the 1964 Act were introduced over the years to take account of revisions of the UPOV Convention. Recently, however, the UK completely revised its PBRs system to accord with the more radical revision of the 1991 UPOV Convention. The Plant Varieties Act of 1997, which came into effect on 8 May 1998, now provides the legislative basis for PBRs in the UK. The UK became a party to the 1991 UPOV on 3 January 1999.

¹⁵Kathleen A. Fox (Deputy Controller, Plant Variety Rights Office and Seeds Division, MAFF, Cambridge, United Kingdom), *Plant Variety Protection in the United Kingdom*, Briefing Workshop on Plant Variety Protection Under the UPOV Convention for Countries in Asia organized by UPOV, Cambridge, 8-19 June, 1998.

43. The 1997 Act details the functions of the Plant Varieties Rights Office (PVRO), and specifies what can be protected (and the conditions a variety must meet to qualify for protection), who is entitled to protection, the scope of their rights and their duration, and an infringement policy. The Act says that all genera and species may be protected. The possibility of protection is therefore available to the entire plant kingdom (only about 400 species were previously eligible for protection under the 1964 Act). A variety must meet the DUS criteria, and be new to qualify for protection. The terms distinctness, uniformity and stability are all defined in the Act. In brief, to be distinct a variety must be clearly distinguishable by one or more characteristics capable of precise definition from any other variety in common knowledge at the time of application for rights. A variety is deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in those features which are assessed in the examination of its distinction. A variety is considered to be stable if those characteristics which are included in the examination of its distinctness remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle. The last hurdle which a variety must cross is that of novelty – the variety must be new to commerce.

44. The person who breeds, or discovers and develops, the variety is entitled to rights. The word "develops" indicates that simply discovering a plant in the wild is not sufficient to meet the criteria for protection. Developing a variety could mean intervening to eradicate a disease or to fix a desirable trait in a plant. The basic right applies to propagating material and is set at 25 years, except for trees, vines and potatoes that enjoy 30 years of protection. Rights enable their holders to prevent others from reproducing the propagating material of a protected variety, preparing it for sale or planting it. The holder can authorize – that is license – others to do this with his protected variety and charge royalties. The rights do not actually allow breeders to use their varieties in ways that are prohibited by legislation. However, their right allows them to prevent others for exploiting their protected varieties.

45. The UK has also chosen to exempt the use of farm saved seed of the main agricultural species from PBRs. Farmers may therefore continue to save seed for use on their own holdings with the breeder's permission. They are, however, required to pay the breeder for its use. The 1997 Act also contains provisions for compulsory licensing, to prevent the abuse of PBRs, and provisions on infringement.

46. PVRO, which administers PBRs, falls under the Ministry of Agriculture, Fisheries and Food and the Secretaries of State for Scotland, Wales and Northern Ireland. It has a status similar to that of other UK bodies responsible for granting IPRs, such as the Patent Office. It takes decisions on whether or not to grant PBRs, and employs contractors to test plant varieties on its behalf. Plant breeders have to pay the full costs of operating under the UK system of PBRs, and these include application, test, grant and renewal fees for each year in which a variety remains in protection. If a variety is tested in another UPOV member country, in accordance with UPOV's technical guidelines, and the UK has confidence in this country's procedures, it will accept its test report.

IV. LEGISLATION ENACTED TO GIVE EFFECT TO THE CBD

47. The International Union for the Conservation of Nature (IUCN) is currently examining the relationship between the CBD and the international trade regime. In this context, Graham Dutfield has prepared a study entitled Intellectual Property Rights, Trade and Biodiversity: the Case of Seeds and Plant Varieties, which will be a forthcoming publication of the IUCN. The study describes some of the legislation enacted on access to genetic resources and benefit-sharing.

A. THE ANDEAN COMMUNITY'S COMMON SYSTEM ON ACCESS TO GENETIC RESOURCES

48. The Andean Community Common System on Access to Genetic Resources was adopted in 1996 by the Community's member countries, which include Bolivia, Colombia, Ecuador,¹⁶ Peru and Venezuela. The Common System asserts the sovereign right of member countries over the use and exploitation of their genetic resources, and their right to determine the conditions of access to them. According to Dutfield, the System goes beyond the CBD in that it extends sovereign rights to derivatives of genetic resources. These are defined as a molecule or combination or mixture of natural molecules, including raw extracts of living or dead organisms of biological origin, derived from the metabolism of living organisms.

49. The Common System includes numerous provisions for the protection of traditional knowledge. It recognizes the contribution of traditional communities to biodiversity, its conservation and sustainable use, and the benefits which ensue to society from this contribution. It calls for a strengthening of the interdependence between these communities and biodiversity. The System introduces the term "intangible component" in reference to knowledge, innovations and practices (whether individual or collective), of actual or potential value, that are associated with biogenetic resources or derivatives thereof. One of the main objectives of the Common System is to establish a basis for recognizing and appreciating genetic resources, their derivatives, and related intangible components. According to Dutfield, the concept of intangible components "removes non-IPR protected knowledge from the public domain." It is introduced in the Common System to provide legal support to indigenous communities in contesting the misappropriation of their knowledge, and in negotiating access agreements with users.

50. The Common System sets out a mechanism to control access to genetic resources. Persons wishing to access these must file an application and sign a contract with their suppliers. The supplier of the resource must be the State, represented by the competent national authority. Contracts must address the rights and interests of the suppliers of the genetic resources, their derivatives and intangible components. If access to a resource which includes an intangible component is requested, the fair and equitable sharing of benefits arising from its use must be provided for in an annex to the contract. Dutfield explains that while local communities are not mentioned as possible parties to access contracts, they may become a party to such contracts if they are recognized as the owners, holders or administrators of the property in which the genetic resources are found.

51. In a section dealing with complementary measures, the Common System states that any rights, including IPRs, to genetic resources, derivatives or related intangible components obtained in violation of the provisions of System's terms of access, shall not be recognized by member states. Furthermore, the national authorities dealing with IPRs are empowered to request IPR applicants to submit copies of their access contracts as a pre-condition for granting them protection.

B. THE BIODIVERSITY LAW OF COSTA RICA

52. In 1998, Costa Rica passed the *Ley de Biodiversidad*, or the Law on Biodiversity, which is described by Dutfield as being "the most ambitious and elaborate national law to implement the CBD" to date. The author indicates that many of its provisions are designed to reconcile the country's CBD obligations with its obligations under the TRIPS Agreement. The Law has amongst its objectives (1) regulating the access to biodiversity resources and facilitating the equitable distribution of social, environmental and economic benefits to all sectors of society, with special attention to local communities and indigenous peoples, (2) recognizing and compensating the knowledge, innovations

¹⁶Ecuador has notified the Directive on the Common System on Access to Genetic Resources to the TRIPS Council (IP/N/1/ECU/1).

and practices of indigenous peoples and local communities for the conservation and ecologically sustainable use of biodiversity, and (3) promoting technology transfer.

53. The Law includes in the definition of biodiversity the concept of "intangible elements," which refers to traditional knowledge (whether individual or collective), innovations and practices, with current or potential value, associated with biochemical and genetic resources. Articles 77-85 of the Law are devoted to IPR issues. They start with a recognition of the need to protect knowledge and innovations through appropriate legal mechanisms, and make specific reference to patents, copyrights, trade secrets, PBRs, *sui generis* community intellectual property rights, and Farmers' Rights. Included among the exceptions from IPR protection are DNA sequences, plants and animals, and essentially biological processes for the production of plants and animals.

54. The Law establishes a National Biodiversity Management Commission, a body which the National Seeds Office and the Intellectual and Industrial Property Registries must consult prior to awarding IPRs for innovations involving biodiversity. The Management Commission must issue a certificate of origin for the resources used in any invention, and the IPR applicant must present along with his/her application a statement indicating that the prior informed consent of their suppliers was obtained. Such consent may include that of indigenous communities in cases where bioprospecting took place on their lands. Indigenous peoples are authorized to refuse access to resources on any grounds. Articles 82-85 deal with the IPRs of local communities and expressly recognize the value of their knowledge. Work is currently under way to determine how it can best be registered and protected.

ANNEX 1

SYNOPTIC TABLE OF PLANT VARIETY PROTECTION SYSTEMS

	AUS	BGR	CAN	CHE	CZE	EEC	HUN
1. Do the laws applicable to your territory provide for a <i>sui generis</i> form of protection for a new plant variety?	Yes	Yes	Yes	Yes	Yes	Yes	No
2. If the answer to question 1 is "yes", does that protection conform to the standards defined in one of the Acts of the International Convention for the Protection of New Varieties of Plants (UPOV)?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. If the answer to question 2 is "yes", please specify the Act of the UPOV Convention upon which your legislation is based (i.e. the 1991 Act, the 1978 Act or the 1961/1972 Act).	1991	1991	1978	1978*	1978	1991	1978
4. If <i>sui generis</i> protection for plant varieties is provided in your territory, would any of the following acts require the prior authorization of the right holder: (a) acts performed for research or experimental purposes, or to develop new varieties of plants? (b) acts performed to commercially exploit a variety distinct from the protected variety but sharing its essential characteristics? (c) acts performed by a farmer of harvesting seed from his planting of a protected variety legitimately obtained, storage of that seed, and replanting of that seed on the farmer's land? If prior authorization is not required for any of the above examples of activities, is there any requirement that the party undertaking the specified actions provide the right holder with remuneration in any form?	No Yes* No*	No No*	No No No	No* No* No*	No Yes Yes	No Yes No*	n.a. n.a. n.a.
5. Would acts done privately and for non-commercial purposes require the authorization from the right holder?	No	No*	No	No*			n.a.
6. Does your legislation provide for other exceptions to the rights conferred?	Yes*	Yes	Yes				Yes
7. Can protection be obtained for a plant variety that was known to the public, or was publicly available, prior to the application for <i>sui generis</i> protection for that plant variety, and, if so, under what conditions (i.e. what are the time-limits during which public disclosure or availability will not preclude the grant of protection)?	*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
8. To be entitled to rights under <i>sui generis</i> plant variety protection does one have to be the person who bred, or discovered and developed the variety, or his successor in title?	Yes	Yes	Yes				Yes
9. Can protection be predicated on identification of an unexpressed gene, on an unexpressed set of genes present in the genome of the plant variety, or on the characteristics of germplasm, rather than the expressed characteristics of plant varieties derived from such genes or germplasm?	No	No*	No	No	No	No	No
10. What are the conditions that your law require for protection? ¹	d,u, s,n ¹	d,u,s pd,n	d,u,s pd,n				d,u,s pd,n
11. What is the duration of protection?	25/20*	30/25*	18*				15/18*

* See the explanatory note which follows for further information/"n.a." means not available,

¹d=distinctness; u=uniformity; s=stability; n=novelty; pd=proper denomination/a blank means that no information was provided

JPN	KOR	MAR	NOR	NZL	POL	ROM	SVN	USA	ZAF	ZMB
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	No*
Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes	n.a.
1991	1991	1991*	1978*	1978	1991	1991	1991	1991	1991*	n.a.
No	No	No*	No*	No	No	No	No	No*	No	n.a.
Yes*	Yes	Yes*	No*	No	No	Yes	Yes	Yes	No	n.a.
No*	No	No*	No	No		No	No	No*	No	n.a.
No	No	No*	No	No		No*	Yes*	No		n.a.
	No	No*		No	No	No		No	No	n.a.
	Yes	Yes*		Yes*	Yes	Yes*			Yes	n.a.
Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	No*	n.a.
	Yes	Yes*		Yes*	Yes	Yes*		Yes	Yes*	n.a.
No	No		No	No*	*	No	No*	No*	*	n.a.
	d,u,s pd,n	d,u,s pd,n		d,u,s,n	d,u,s pd,n	d,u,s pd,n			d,u,s,n	*
	25/20*	20/25/30*		23/20*	30/25*	30/25*		25/20*	25/20*	n.a.

Explanatory Notes to the Synoptic Table

Question 1: *Do the laws applicable to your territory provide for a sui generis form of protection for a new plant variety?*

United States

Yes.

U.S. laws provide for a *sui generis* form of protection for sexually reproduced and tuber propagated plant varieties, under the Plant Variety Protection Act (Section 2321 *et seq.* of title 7, United States Code).

Under US law, anyone who develops a new *plant variety* may obtain one of three forms of protection, two of which depend on the manner of reproduction of the plant variety:

- If the variety was developed through *sexual reproduction* or *tuber propagation*, the breeder may obtain a plant variety protection certificate under the Plant Variety Protection Act (Section 2321 *et seq.* of title 7, United States Code) administered by the Plant Variety Protection Office of the Department of Agriculture.
- If the variety, other than tuber propagated plants, was developed through *asexual reproduction*, the breeder may obtain a plant patent under the Plant Patent Act (Section 161 *et seq.* of title 35, United States Code) from the United States Patent and Trademark Office.
- Regardless of its method of propagation, the developer of a new plant *invention*, i.e., a plant variety or an invention concerning plants of a higher taxonomic classification, may obtain a utility patent under the general Patent Law (i.e., an invention patent under Section 101 of title 35, United States Code) from the United States Patent and Trademark Office.

Zambia

No.

Currently, Zambia has in place a draft Plant Breeders Rights Act. It would appear that the same is based on the principles of the 1991 Act of the UPOV Convention. Under UPOV 1991, parties are free to protect plant varieties by plant breeders rights. The Act works basically in the interest of the farmer at local community level. It would be advisable, therefore, if the Plant Breeders Rights Act was to be used in Zambia as an alternative to patenting of plant varieties in Zambia.

Question 2: *If the answer to question 1 is "yes", does that protection conform to the standards defined in one of the Acts of the International Convention for the Protection of New Varieties of Plants (UPOV)?*

Romania

Yes.

Romania is not yet a party to the International Convention for the Protection of New Varieties of Plants (UPOV). Preparations are being made to accede to the Convention – 1991 Act – and it is considered that the legislation in force conforms with that Act.

Question 3. *If the answer to question 2 is “yes”, please specify the Act of the UPOV Convention upon which your legislation is based (i.e. the 1991 Act, the 1978 Act or the 1961/1972 Act).*

Switzerland¹

The present Federal Law on New Plant Varieties of 20 March 1975 (LPV; text notified according to Art. 63.2 of the TRIPS Agreement on January 31, 1996 (see document IP/N/1/CHE/1 at p. 11)) is based upon the 1978 Act. It is currently being revised in view of ratification of the 1991 Act.

Morocco

The Council of the International Convention for the Protection of New Varieties of Plants (UPOV) has examined and recognized that the Moroccan law on the protection of new plant varieties is consistent with the Acts of the UPOV Convention of 1978 and 1991.

Norway

Norway has acceded to the International Convention of 2 December 1961 for the Protection of New Varieties of Plants (UPOV Convention), as revised on 23 October 1978. The Norwegian Plant Variety Act and supplementary regulations are in conformity with this convention and partly also conform to UPOV 1991.

South Africa

South Africa is a member of UPOV and has ratified the 1978 Convention. We have acceded to the 1991 Convention, and our Plant Breeders' Rights Act, No. 15 of 1976 (as amended) "the Act", was further amended by the Plant Breeders' Rights Amendment Act, No 673 of 1996 to bring South Africa's legislation into conformity with the 1991 Convention. The last mentioned Act was approved by Parliament and entered into force on 19 April 1996. The 1991 Convention has, however, not been ratified by South Africa.

Question 4. *If sui generis protection for plant varieties is provided in your territory, would any of the following acts require the prior authorization of the right holder:*

- (a) *acts performed for research or experimental purposes, or to develop new varieties of plants;*

Switzerland

No.

According to Article 12(3) of the LPV, the authorization of the right holder is not necessary when using the propagating material of protected varieties to breed or market new varieties ("breeder's exemption"). The authorization of the right holder, however, is necessary if the protected varieties have to be used repeatedly to produce the new varieties.

¹The authority responsible for the grant of plant variety certificates is the Swiss Bureau for Plant Varieties, from the Federal Office of Agriculture, Ministry of Economy. The Bureau does not proceed to an examination as to substance. It is empowered to refer to examinations and field tests made by the authorities of States that are Contracting Parties of the UPOV Convention.

Furthermore, Article 12(1) of the LPV only prohibits acts performed on a professional (commercial) level; therefore, all acts performed for research or experimental purposes or to develop new varieties of plants, on a non-professional level, are not prohibited by this provision.

Morocco

No.

Article 17 of the Law states that the breeder's right does not cover:

- Acts performed privately for non-commercial purposes;
- acts done for experimental purposes;
- acts carried out to create new varieties as well as the acts contemplated in the second and third paragraphs of Article 16 above, performed with such varieties, provided that:
 - the protected variety is not used repeatedly in order to produce the new variety;
 - the new variety is not derived essentially from the protected variety if the latter is not itself essentially a derived variety;
 - the new variety is clearly distinguishable from the protected variety; and
 - acts performed by farmers for the purposes of reproduction or propagation on their own farms using the products of the harvest obtained by planting the protected variety, with the exception of tree crops and ornamental and floral plants (farmer's privilege).

Norway

No.

However, consent is necessary if producing the new variety for commercial purposes involves continuous use of the protected variety.

United States

No, with respect to plant variety protection certificates issued under the Plant Variety Protection Act.

(With respect to utility patents issued under the general Patent Law, or plant patents issued under the Plant Patent Act, such acts would not require prior authorization from the holder of the patent if the acts were done for purely non-commercial purposes. Acts with a commercial motivation or purpose however, would provide a basis for a finding of infringement of the patent, if done without prior authorization from the right holder.)

(b) acts performed to commercially exploit a variety distinct from the protected variety but sharing its essential characteristics;

Australia

Yes, provided that:

- (i) the distinct variety has been declared an essentially derived variety from the protected variety; or
- (ii) the production of the distinct variety required the repeated use of protected variety (ie the distinct variety is a dependant variety).

Switzerland

No.

The present LPV does not address the issue of essentially derived plant varieties. Thus, acts performed to commercially exploit varieties that are distinct from protected varieties but share their essential characteristics do not require the prior authorization of the right holder.

The current revision of the LPV will take into account the "essentially derived and certain other varieties", as well as other situations prescribed by the 1991 Act of the UPOV Convention.

Japan

Yes.

Acts performed to commercially exploit a variety which falls under the following conditions *require* the prior authorization of the right holder:

- (i) The variety was bred from an initial variety, while retaining the essential characteristics of the initial variety, by selection of variation, backcrossing, transformation by genetic engineering, etc.
- (ii) The variety is clearly distinguishable from the initial variety in terms of characteristics.
- (iii) The initial variety is a protected variety and is not a variety which falls under the conditions (i) and (ii).

Morocco

Yes.

See answer to question 4(a) above.

Norway

No, provided that the new variety is distinct from the protected variety in the characteristics that define the latter. This will be determined on a case-by-case basis.

(c) acts performed by a farmer of harvesting seed from his planting of a protected variety legitimately obtained, storage of that seed, and replanting of that seed on the farmer's land.

Australia

No, unless the taxa is one declared by regulation to be one to which the farm saved seed exemption does not apply (currently no taxa have been subject to such a declaration).

Bulgaria

No.

In order to stimulate agricultural production, farmers are entitled to use for their own needs, for the purpose of reproduction in their own farms, products of a harvest they have obtained through planting in their own farms, propagating material of a variety other than the hybrid or the artificially obtained variety, protected by a certificate. This provision is applied only to plant species included in a list endorsed by the Ministry of Agriculture.

Switzerland

No.

Under the present law, farmers have the right to use the harvesting of (protected) seed in view of another use for further replantings in their own holdings (farmer's privilege).

It is expected that the revised LPV will provide the possibility to grant the farmer's privilege through an ordinance. The farmer's privilege is likely to be restricted to certain agricultural crops enumerated in a list.

European Communities

No.

The answer applies to certain agricultural crops.

Japan

No.

Where farmers legitimately obtain the seeds and seedlings of the protected variety, produce the product of the harvest by using the said seeds and seedlings, except for which belong to a plant genus or species which is propagated vegetatively and is stipulated by the Ordinance of the Ministry of Agriculture, Forestry and Fisheries, and further use the said product of harvest as the seeds and seedlings on their own holdings, *the effects of the breeder's right shall not extend to the seeds and seedlings and the harvested materials obtained from them*, except as otherwise prescribed by a contract.

Morocco

No.

See answer to question 4(a) above.

United States

No, with respect to plant variety protection certificates issued under the Plant Variety Protection Act.

(With respect to plant patents issued under the Plant Patent Act, their protection extends only to specific acts of asexual reproduction of the protected variety, or sale or use of the *plant* that is the subject of the grant. Harvesting and reuse of *seeds* from such a plant involve *sexual* propagation of the plant, and as such would not be covered by the plant patent rights.)

(With respect to utility patents issued under the general patent law, such acts would require the prior authorization of the patent owner.)

If prior authorization is not required for any of the above examples of activities, is there any requirement that the party undertaking the specified actions provide the right holder with remuneration in any form?

Australia

No.

The exercise of PBR rights is at the discretion of the rights holder and legislation does not stipulate remuneration except in respect of the issue of a compulsory license or acquisition. However, in circumstances where the harvested material or product from harvested material has been produced without a reasonable opportunity for the grantee to exercise their right on the propagative material (e.g. through the operation of farm saved seed), and the use of that harvested material or product does not qualify as an exemption (see answer to question (i) above), the grantee may choose to exercise their rights on the harvested material or product as if it was the propagative material.

European Communities

Yes.

In the case of question 4(c) above, the answer applies to farmers other than “small farmers”.

Morocco

No.

See answer to question 4(a) above.

Romania

No.

But the party performing the act provided in the answer to 4(b) above without the right holder's authorization may be obliged to pay for damages.

Slovenia

Yes, only in case under (c); the farmer must pay the holder a suitable remuneration. The remuneration is suitable if it is sensibly lower than the amount charged for the licensed production of

propagating material of this variety in the same area; small farmers shall not be required to pay any remuneration to the breeder.

Question 5. *Would acts done privately and for non-commercial purposes require the authorization from the right holder?*

Bulgaria

No.

Article 20 of the Law on the Protection of New Plant Varieties and Animal Breeds provides for the following exceptions to the plant breeder's rights:

"acts performed by farmers privately and for non-commercial purposes; [...]."

Switzerland

No.

See answer to question 4(a) above.

Morocco

No.

See answer to question 4(a) above.

Question 6. *Does your legislation provide for other exceptions to the rights conferred?*

Australia

Yes.

Certain compulsory licensing provisions may apply if the grantee of PBR in a plant variety does not take all reasonable steps to ensure reasonable public access to that plant variety. Reasonable public access to a plant variety covered by PBR is taken to be satisfied if propagating material of reasonable quality is available to the public at reasonable prices, or as gifts to the public, in sufficient quantities to meet demand. This entails the granting of a license to sell and to produce propagating material of plants of that variety for sale on such terms and conditions (including the provision of reasonable remuneration to the grantee) as is considered would be granted by the grantee in the normal course of business.

Morocco

Yes.

Article 21 of the Law prescribes that upon expiry of a period of three years following the delivery of the certificate or four years from the filing date of their application, any legal person governed by public or private law may obtain a compulsory licence for this certificate if at the time of the application, barring any valid excuses, the holder of the certificate or his successor:

- Has not yet started to exploit or to make effective and serious preparations to exploit the new variety covered by the certificate on Moroccan territory; or

- has not sold the product covered by the certificate in quantities large enough to satisfy the needs of the national market; or
- if the exploitation or sale of the variety has been abandoned for more than three years in Morocco.

Articles 22, 23 and 24 define the conditions for the grant and the withdrawal of compulsory licences.

New Zealand

Yes.

The Plant Variety Rights Act 1987 provides that any person may at any time after the expiration of three years from the making of a grant, on payment of the prescribed fee, request the Commissioner [of Plant Variety Rights] to consider whether or not reasonable quantities of reproductive material of a reasonable quality of the variety concerned are available for purchase by members of the public at a reasonable price. Where such a request is made, the Commissioner shall give the grantee concerned notice of it and a reasonable time to be heard in relation to it.

If after considering any submissions made by that grantee, the Commissioner is satisfied that, reasonable quantities of reproductive material of reasonable quality of the variety concerned are not available for purchase by members of the public at a reasonable price, the Commissioner shall issue to the person who made the request one or both of the following:

- a compulsory licence for the reproduction and sale of reproductive material of that variety;
- an order requiring the grantee to sell to that person reproductive material of that variety.

In considering whether or not reasonable quantities of reproductive material of reasonable quality are available to members of the public at a reasonable price, the Commissioner shall not take into account any reproductive material that is available only subject to the condition that all or any of the produce from that material must be sold or offered to a specified person, or to one of a specified group of persons, or to a member of a specified class or description of person.

Romania

Yes.

The granting of a compulsory licence does not prevent the variety patent owner from exploiting the variety or granting licences to third parties (Article 37(4) of Law No. 255/1998).

Question 7. *Can protection be obtained for a plant variety that was known to the public, or was publicly available, prior to the application for sui generis protection for that plant variety, and, if so, under what conditions (i.e. what are the time-limits during which public disclosure or availability will not preclude the grant of protection)?*

Australia

Only new or recently exploited varieties can be registered. A new variety is one which has not been sold with the breeder's consent. A recently exploited variety is one which has been sold with the breeder's consent for up to 12 months in Australia and for overseas varieties this limit is up to four years (with the exception of trees and vines for which a six year overseas prior sale limit is permitted).

Bulgaria

Yes.

Plant variety is deemed to be new if, at the date of filing the application for a certificate, the variety or propagating material of the variety or harvest thereof has not been offered for sale, sold, or otherwise used commercially, or has been offered with the consent of the breeder in the territory of the Republic of Bulgaria for not more than one year, or in the territory of any other country for not more than six years concerning trees and vines or four years concerning any other plant species (Article 8.1 of the Law on the Protection of New Plant Varieties and Animal Breeds).

Canada

Yes.

Protection cannot be obtained for a variety that has been sold in Canada prior to application, or sold outside of Canada for four (4) years, or six (6) years for woody plants prior to application. The exception to this is for "recently prescribed categories". There is a transitional period, of one year from the date Regulations came into effect, that permits the sale of varieties prior to application. In this case, varieties may have been sold in Canada after 1 August 1990, and sold outside of Canada after 1 August 1984 for woody plants and after 1 August 1986 for all other plants.

Switzerland

Yes.

According to Article 5(3) of the LPV, "[t]he fact that a variety is itself generally known shall in no way detract from its character of novelty unless, at the time the application was filed, the variety had already been offered for sale or marketed in Switzerland or – for more than four years – abroad, with the consent of the breeder or his successor in title."

The current revision of the LPV will take into account the features of the 1991 Act of the UPOV Convention.

Czech Republic

Yes.

The Law 132/1989 Coll., on Protection of Rights to New Plant Varieties and Animal Breeds, in the Section 4, paragraph 2 and 3, determines the conditions for granting of plant variety. According to this Law a plant variety is new, if:

1. It was not sold nor offered for sale
 - (a) in the territory of the Czech Republic for more than one year prior to filling the application

- (b) in the territory of another state for more than six years prior to filling the application

- 2. it was sold or offered for sale without the cultivator's consent.

European Communities

Yes.

In the case of availability within the Community: one year; in the case of availability outside the Community: four years or, for trees or vines, six years.

Hungary

Yes.

The variety shall be deemed to be new if it has not been offered for sale or marketed with the consent of the breeder or his successor in title:

- (a) In the country earlier than one year before the date of priority;
- (b) abroad earlier than four years or, in the case of trees and vines, earlier than six years before the date of priority.

Japan

Yes.

A plant variety may not be protected when it is not clearly distinguishable in terms of characteristics from any other varieties which have been publicly known in Japan or foreign countries before the filing of the application for variety registration.

A plant variety may not be protected when the seeds and seedlings or harvested materials of the applied variety have been transferred in the course of business, in Japan earlier than one year before the filing date of such an application for protection, or in foreign countries earlier than four years before the filing date of such an application for protection (or earlier than six years in the case of a variety belonging to perennial plants such as trees). However, this shall not apply where such transfer was made for the purpose of experiment or research, or where such transfer was made against the will of the breeder.

Korea

Yes.

Article 13.2 of the Act provides that, among the varieties which have already been known at the time when species or genus of the plants entitled to variety protection under the Act are determined in accordance with the Ordinance of the Ministry of Agriculture and Forestry, a variety falling under any of the following category shall be entitled to protection, provided that an application for variety protection thereof is made within one year from the date of the determination:

- (i) A variety registered or specified under the past relevant laws.
- (ii) a variety whose protection rights are registered in foreign countries.
- (iii) a variety whose breeder and initial circulation date are verified.

Morocco

Yes.

Article 6 of Law No. 9-94 prescribes that a variety is deemed to be new if, at the date of filing the application for the breeder's right, the reproductive material or propagating material or the harvested or processed material of the variety has not been sold or otherwise transferred to third parties by or with the consent of the breeder with a view to the commercial exploitation of the variety, for at least one year in Morocco or at least four years, or in the case of trees or vines, at least ten years abroad.

Besides, Article 76 provides that for a transition period of one year from the effective date of the Moroccan Law, an application may be filed for the protection of varieties that have been offered for sale, otherwise used commercially or disseminated in Morocco or abroad prior to the effective date of the present law. If that protection is granted, its duration is reduced by the number of full years that have elapsed between the date when the variety was first offered for sale, otherwise commercially used or disseminated and the filing date of the application.

The same rule applies, *mutatis mutandis*, to varieties of species added to the list of protected species after the entry into force of the present law (Article 76).

Norway

Yes.

Protection cannot be obtained for a variety that has been offered for sale in Norway with the right holder's consent prior to the filing of an application for a plant breeder's right. Offering for sale abroad that has taken place less than four years prior to the filing date does not preclude protection. For varieties of trees and vine stock the period is six years. In other cases, public knowledge of the variety prior to the filing date does not preclude protection.

New Zealand

Yes.

Protection can be obtained for a plant variety known to the public or publicly available prior to the application for *sui generis* protection for that plant variety provided there has been no sale of that variety with the agreement of any relevant owner of that variety:

- (i) In New Zealand, for more than 12 months before the date on which that application was made; and
- (ii) overseas, for more than six years before that date, in the case of a woody plant, or for more than four years before that date in every other case.

Poland

Yes.

The duration of a variety's being known to the public is not taken into account. However, it must satisfy the novelty criterion. All varieties, including a variety which was not created by discovery must satisfy the criterion of distinctness according to Article 7 of the UPOV Convention (Act 1991).

Romania

Yes.

The variety is deemed new if, on the filing date of the application for the grant of protection, or on the priority date, propagating material or harvested material of the variety has not been sold or otherwise disposed of to others, either by or with the consent of the breeder, for the purpose of commercial exploitation of the new variety: (a) on the territory of Romania, earlier than one year before the filing date of the application for a variety patent.

Slovenia

Yes, provided that a plant variety for which an application was filed in the Republic of Slovenia has not been sold or commercially exploited in the territory of the Republic of Slovenia more than one year before the filing of the application, and outside the Republic of Slovenia not more than four years before the filing date (in case of trees and vine, not more than six years).

United States

Yes, with respect to plant variety protection certificates issued under the Plant Variety Protection Act. The applicable periods of time are (a) for disclosures within the United States, one year, and (b) for disclosures outside the United States, (i) six years for new tree or vine varieties, and (ii) four years for all other types of varieties.

(With respect to plant patents and utility patents, protection can be obtained, notwithstanding a disclosure of the plant variety or plant invention up to one year prior to the date of application for protection.)

South Africa

No.

Varieties which are generally known to the public or which are identical to what occurs in nature are not protectable under our *sui generis* system for the protection of plant varieties.

Question 8: *To be entitled to rights under sui generis plant variety protection does one have to be the person who bred, or discovered and developed the variety, or his successor in title?*

Morocco

Yes.

The entitlement to rights is reserved for the breeder, who is defined as follows:

- The person who has created, discovered or developed a variety;
- the person who employs the aforementioned person or who commissioned his work, subject to any contractual provisions to the contrary;
- the successor in title of the first or the second above-mentioned person, as appropriate.

New Zealand

Yes.

The 'owner' is entitled to rights in relation to any variety. Section 2 of the New Zealand Plant Variety Rights Act 1987 defines "owner" as a person "who bred or discovered that variety, and includes a successor of that person".

Romania

Yes.

The breeder is entitled to the rights in a variety patent.

South Africa

Yes.

An application for the grant of a plant breeder's right may be made by:

- (1) The breeder of a new variety of a kind of plant; or
- (2) if the breeder is an employee (irrespective of whether or not he is paid a salary) whose duties are such that they involve plant breeders' activities relating to the kind of plant in question, and the new variety in question was bred in the performance of such duties, the employer of such breeder; or
- (3) the successor in title of the breeder or employer referred to in paragraph (a) and (b) respectively.

The aforesaid application may only be made by a person who:

- Is a citizen of, or is domiciled in, the Republic or a convention country or an agreement country; or
- in the case of a juristic person, has a registered office in the Republic or a convention country or an agreement country.

Question 9. *Can protection be predicated on identification of an unexpressed gene, on an unexpressed set of genes present in the genome of the plant variety, or on the characteristics of germplasm, rather than the expressed characteristics of plant varieties derived from such genes or germplasm?*

Bulgaria

No.

Germplasm characteristics can be protected by a patent for invention, where the patentability requirements are met. Characteristics of a plant variety derived from such germplasm are protected by a plant breeder's rights certificate.

New Zealand

No.

Protection is only granted based upon characteristics of plant varieties derived from germplasm.

Poland

Basically, for the purpose of examination as to distinctness, uniformity and stability, botanical characteristics are used. In case of the botanical characteristics not being sufficient enough to ascertain that a variety meets the distinctness criterion, methods with the use of genotype characteristics are used. The latter are taken as complementary characteristics.

Slovenia

No, protection is predicated on identification of expressed characteristics of plant varieties.

United States

No, with respect to plant variety protection certificates. The determination of novelty for a variety is presently made through reference to the phenotype or expressed characteristics of the plant variety.

No, with respect to plant patents, for the same reason (i.e., the evaluation of novelty and non-obviousness of the plant variety is based on phenotypical or expressed characteristics of the plant variety).

No, with respect to utility patents. If a gene is present in the plant in its natural state, its identification alone cannot be a basis for protection, regardless whether it is expressed or unexpressed. To rely on genes for patentability of a plant, they would have to be introduced into the plant by human intervention. Introduction of a gene that does not express a difference in the characteristics of the plant may render it novel and arguably non-obvious under the general Patent Law. However, the criterion of utility would not be met, as the unexpressed gene did not change the original utility of the plant, as occurring in nature.

South Africa

Protection for a variety can only be obtained if it is morphologically distinguishable from any other known variety of the same kind of plant. Protection cannot be obtained on differences which are based on characteristics of the germplasm.

Question 10: *What are the conditions that your law require for protection?*

Australia

A variety is registerable if: it has a breeder; and is distinct, uniform and stable. It must also be new or only recently exploited.

A new variety is one which has not been sold with the breeder's consent. A variety is taken to be recently exploited if propagating or harvested material of the variety has been sold, with the breeder's consent, for up to 12 months in Australia. For sales made in the territory of another contracting party (UPOV Member State) the limit is up to four years for all taxa (with the exception of trees and vines for which a six-year time limit on sales is permitted).

To obtain acceptance of an application and provisional protection it must be established that there is a *prima facie* case that the variety is distinct from all other varieties of common knowledge. To obtain a grant of PBR the applicants must verify these claims normally by conducting a comparative test growing which includes the new variety and the most similar varieties of common knowledge.

Zambia

As earlier indicated, Section 18 allows the Registrar on a discretionary basis to refuse certain classes of applications for a patent. However, plant varieties do not fall within any of the classes. Therefore by interpretation, it is possible for the Registrar to grant a patent for a plant variety, but only if it can meet the criteria of an invention and if the complete specification "fully described the invention and the manner in which it is to be performed". (Section 14(3) of the Act). What would need to be resolved, however, in such a situation would be the question of obviousness and reproducibility.

Question 11: *What is the duration of protection?*

Australia

In tree and vine varieties, PBR continues for 25 years from the date of granting, and in all other varieties, for 20 years from the date of granting.

Bulgaria

The term of validity of a plant variety certificate as from its date of grant is as follows:

- 30 years for tree or vine varieties;
- 25 years for other varieties.

Canada

18 years for all species.

Hungary

Under Article 106(4) patent protection shall have a duration of 15 years from the date of the grant of a plant variety patent or, in the case of trees and vines, of 18 years from such date.

Korea

Under Article 56 of the Act, the variety protection right shall expire at the end of the 20th calendar year following the date of the registration of its establishment. For ornamental trees and fruit trees, the right shall expire at the end of the 25th calendar year following the date of the registration of its establishment.

Morocco

The duration of protection is 20 years for varieties used as field crops, 25 years for tree and vine varieties and 30 years for date palm.

New Zealand

Protection in New Zealand is available for:

- 23 years for woody plants including root stock; and
- 20 years for all other plant types.

Poland

Plant Breeder's Rights protection starts from the date of grant and its term is:

- 30 years with respect to grape-wine varieties as well as trees and their rootstocks,
- 25 years with respect of other varieties.

Romania

The duration of protection is 25 years from the date of granting of the variety patent. For new fruit tree, vine and ornamental tree varieties the duration of protection is 30 years from the date of granting of the variety patent.

United States

25 years from date of issue for vines and trees, and 20 years from issue for all other varieties under a plant variety protection certificate. In addition, 20 years from filing date for patents.

South Africa

For trees and vines - 25 years; and in all other cases - 20 years.

ANNEX 2

STATES PARTY TO THE INTERNATIONAL CONVENTION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Status on 29 June 1999

State	Date on which State became member of UPOV	Latest Act ¹⁷ of the Convention to which State is party and date on which State became part to that Act.	
Argentina	25 December 1994	1978 Act	25 December 1994
Australia	1 March 1989	1978 Act	1 March 1989
Austria	14 July 1994	1978 Act	14 July 1994
Belgium ¹⁸	5 December 1976	1961/1972 Act	5 December 1976
Bolivia	21 May 1999	1978 Act	21 May 1999
Brazil	23 May 1999	1978 Act	23 May 1999
Bulgaria	24 April 1998	1991 Act	24 April 1998
Canada	4 March 1991	1978 Act	4 March 1991
Chile	5 January 1996	1978 Act	5 January 1996
China	23 April 1999	1978 Act ¹⁹	23 April 1999
Colombia	13 September 1996	1978 Act	13 September 1996
Czech Republic	1 January 1993	1978 Act	1 January 1993
Denmark ²⁰	6 October 1968	1991 Act	24 April 1998
Ecuador	8 August 1997	1978 Act	8 August 1997
Finland	16 April 1993	1978 Act	16 April 1993
France ²¹	3 October 1971	1978 Act	17 March 1983
Germany	10 August 1968	1991 Act	25 July 1998
Hungary	16 April 1983	1978 Act	16 April 1983
Ireland	8 November 1981	1978 Act	8 November 1981

¹⁷"1961/1972 Act" means the International Convention for the Protection of New Varieties of Plants of 2 December 1961, as amended by the Additional Act of 10 November 1972; "1978 Act" means the Act of 23 October 1978, of the Convention; "1991 Act" means the Act of 19 March 1991, of the Convention.

¹⁸With a notification under Article 34(2) of the 1978 Act.

¹⁹With a declaration that the 1978 Act is not applicable to the Hong Kong Special Administrative Region.

²⁰With a declaration that the Convention of 1961, the Additional Act of 1972, the 1978 Act and the 1991 Act are not applicable to Greenland and the Faroe Islands.

²¹With a declaration that the 1978 Act applies to the territory of the French Republic, including the Overseas Departments and Territories.

State	Date on which State became member of UPOV	Latest Act¹⁷ of the Convention to which State is party and date on which State became part to that Act.	
Israel	12 December 1979	1991 Act	24 April 1998
Italy	1 July 1977	1978 Act	28 May 1986
Japan	3 September 1982	1991 Act	24 December 1998
Kenya	13 May 1999	1978 Act	13 May 1999
Mexico	9 August 1997	1978 Act	9 August 1997
Netherlands	10 August 1968	1991 Act ²²	24 April 1998
New Zealand	8 November 1981	1978 Act	8 November 1981
Norway	13 September 1993	1978 Act	13 September 1993
Panama	23 May 1999	1978 Act	23 May 1999
Paraguay	8 February 1997	1978 Act	8 February 1997
Poland	11 November 1989	1978 Act	11 November 1989
Portugal	14 October 1995	1978 Act	14 October 1995
Republic of Moldova	28 October 1998	1991 Act	28 October 1998
Russian Federation	24 April 1998	1991 Act	24 April 1998
Slovakia	1 January 1993	1978 Act	1 January 1993
Slovenia	29 July 1999	1991 Act	29 July 1999
South Africa	6 November 1977	1978 Act	8 November 1981
Spain ²³	18 May 1980	1961/1972 Act	18 May 1980
Sweden	17 December 1971	1991 Act	24 April 1998
Switzerland	10 July 1977	1978 Act	8 November 1981
Trinidad and Tobago	30 January 1998	1978 Act	30 January 1998
Ukraine	3 November 1995	1978 Act	3 November 1995
United Kingdom	10 August 1968	1991 Act	3 January 1999
United States of America	8 November 1981	1991 Act ²⁴	22 February 1999
Uruguay	13 November 1994	1978 Act	13 November 1994

(Total: 44 States)

²²Ratification for the Kingdom in Europe.

²³With a declaration that the Convention of 1961 and the Additional Act of 1972 apply to the entire territory of Spain.

²⁴With a reservation pursuant to Article 35(2) of the 1991 Act.

Belarus, Costa Rica, Croatia, Estonia, Georgia, Kyrgyzstan, Morocco, Nicaragua, Romania, Venezuela, Zimbabwe, and the European Community have initiated with the Council of UPOV the procedure of becoming members of the Union.
