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**Bio-diversity: *Sui Generis* Systems for the
Protection of Plant Varieties and Traditional Knowledge
Associated with Genetic Resources in Brazil**

Draft Discussion Paper

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1. The notion of “sui generis” systems, as related to the issues discussed under Article 27.3 (b) of the TRIPs Agreement, may cover two main kinds of IPR protection, that may,

sometimes, overlap: a) the one related to plant varieties (following the UPOV model, for instance); and b) the one that deals with the protection of traditional knowledge of indigenous and local communities. In neither case, there is, so far, worldwide consensus on what a “sui generis” system exactly is or could be, although, as for the protection of plant varieties, some models are already relatively consolidated, whereas the protection of traditional knowledge is in a less advanced state of development. Brazil is trying to deal with these two aspects of the question separately. The country’s research in agriculture has a predominantly commercial nature, for which the UPOV model suits well, but not a traditional knowledge instrument. As for the latter, the Brazilian Congress is examining some bills related to the access to genetic resources of our biodiversity and the associated traditional knowledge to these genetic resources. This discussion is particularly relevant in the light of the current debate in several international fora, such as, the TRIPs Council, WIPO, FAO and here at UNCTAD. The revision of Article 27.3 (b) poses interesting questions that are being addressed at the WTO, such as what an “effective sui generis system” for the protection of plant varieties might be and whether a reference to the protection of traditional knowledge could be added to the text of that subparagraph

2. This paper attempts to cover the two facets of “sui generis” systems mentioned above. In the next section, a general overview of the subject will be provided. The subsequent part of the paper is dedicated exclusively to the protection of plant varieties under the UPOV model and the last one deals with traditional knowledge. The Brazilian experience will be depicted, together with an indication of the difficulties and challenges of the establishment of original “sui generis” systems.

THE “SUI GENERIS” SYSTEMS AND THE WTO

3. The TRIPs Council is carrying out work on the review of various provisions contained in the TRIPs Agreement. In spite of the fact that it is hard to have a clear picture of the results that will come up in this process, especially because it will coincide with the next set of multilateral trade negotiations in which TRIPs issues are likely to form part of the agenda, many are the controversial issues that already draw the attention of observers. As far as Article 27.3(b) is concerned, doubts arise on both the nature and scope of the review, as well as on the substantive provisions of the Article itself.

4. In the context of the revision of Article 27.3(b) there are, for instance, countries that argue that the deadline of January 2000 to implement the subparagraph, as well as other provisions of the Agreement should be extended in order to allow developing countries to set up the necessary infrastructure entailed by the implementation. With regard to the substantive provisions of the Article, discussions involve the exclusion of patentability to “microbiological processes” and “micro-organisms”, as already happens to plants, animals and essentially biological processes; the provision of protection of plant varieties in such a way that it does not conflict with the obligations assumed by countries under the Convention on Biological Diversity (CBD) and/or the FAO International Undertaking for Plant Genetic Resources; the satisfaction

of the need to protect the knowledge and innovations in farming, agriculture and health and medical care of indigenous people and local communities.

5. An additional point which should also be considered is the extent to which a “sui generis” system is needed in order to protect, for instance, the knowledge of indigenous people. According to some analysts, the development of a “sui generis” system for the protection of indigenous and local communities knowledge, apart from being an expensive initiative likely to lead to undesirable effects from the point of view of the market, would ignore that patents can perfectly account for the protection of traditional knowledge. To these analysts, patents are metering devices that help society evaluate technology more efficiently. In this sense, the question then seems to be more how to adapt the patent system to the holistic characteristics of indigenous knowledge than to create a new system. Although many of the arguments proposed by those who believe that patents furnish an adequate means of protection to traditional knowledge seem correct from a purely economic perspective, they do not seem to account sufficiently for the preservation of such knowledge against unauthorized use by major pharmaceutical companies. A “sui generis” system seems more adequate to prevent this from happenig by establishing a set of specific obligations and penalties for companies that want to make commercial use of traditional knowledge.

6. “Sui generis” protection is not addressed in the same way in all developing countries. National experiences in this field tend to vary according to each country’s characteristics. In Brazil, the specific characteristics of the country demanded a different treatment for “sui generis” system from that in, for instance, other countries where there might exist an overlapping between farmers, indigenous populations and people living in local communities. In Brazil each of these groups can be easily identified. This situation creates the need to establish separate mechanisms that account for each case. Since Brazil is one major exporter of commodities and is also extremely rich in biodiversity, it was necessary to protect the country’s interests from both a comercial and an environmental perspective. Brazilian law for the protection of plant varietis (Law n. 9.456, of April 25 1997, known as “Lei de Cultivares”) was conceived mainly to protect research carried out by national, international, private and public corporations. Brazilian firm EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária), a public enterprise has been able to develop many interesting research projects due partly to the regime established by law 9.456. As far as the protection of traditional knowledge is concerned, there are at present three different bills under examination in the Congress.

INTELLECTUAL PROPERTY RIGHTS AND THE CONVENTION ON BIODIVERSITY

7. It is estimated that Brazil has the greatest biodiversity in the planet (it holds around 22% of global biodiversity, estimated in 250.000 species). According to statistics of the Ministry of Environment, the sectors of the economy related to biodiversity account for more than 45% of Brazil’s GDP, specially in agribusiness (40%), forests (4%), tourism (2,7%) and fishery (1%). The significant progress achieved by modern biotechnology has revealed the growing strategic

importance and the potential value of this heritage, since the furthering of scientific discoveries regarding the identification, isolation and control of the expression of genes of industrial interest in several strategic sectors has opened new technological paths for the improvement of the quality of life worldwide. In this process, great commercial opportunities are created for the agricultural and pharmaceutical sectors, through the generation of new products for which there are expressive markets. Nevertheless, until today, there has been no equitable provision of benefit sharing among countries.

8. Until 1992, the idea that genetic resources were a common good was widely spread. The 1992 Convention on Biodiversity (CBD) recognizes that Governments have the sovereign right to explore their own genetic resources in the implementation of their national environmental policies, as well as the obligation to ensure that national measures and policies do not harm other States' or outside regions' environments - article 3 of the Convention. The CBD also recognizes the right of Governments to participate in the sharing of benefits of these resources. The Brazilian Government has made efforts to prepare a draft law to internalize the aforementioned CBD's principle – article 3 - which resulted in draft law 4751/98 that was sent to National Congress in August 1998, containing the following proposals: 1) to regulate the access to genetic resources located in the national territory, in the economic exclusive zone, in the territorial sea and in the continental platform; 2) to condition the concession of intellectual property right to the observance of this Law of Access; 3) to establish that the sharing of benefits derived from the economic exploration of genetic heritage should involve the sharing of royalties, transference of technology, free of charge licensing for the use of products and processes and capacitation of human resources; 4) to promote the equitable and fair sharing of the benefits derived from genetic resources and related traditional knowledge; 5) to guarantee that decisions on access to related traditional knowledge are made with the participation and approval of the communities that hold this knowledge and ensure that these groups take part in benefit sharing; and 6) to declare a crime related to genetic heritage the unlawful access to genetic resources, and to create the proper sanctions for such infractions.

9. Accordingly, since 1995, parliamentarians have presented draft laws on this subject. The drafts presented by Senators Marina Silva and Osmar Dias were combined in the Senate Draft Law 4842/98, which is currently being considered by a special committee in the Chamber of Deputies, together with Federal Deputy Jacques Wagner's draft (4579/98). Furthermore, a Draft Amendment to article 20 of the Federal Constitution is also under consideration of the National Congress, considering genetic heritage, excluding human heritage, a sovereign good. Similarly, it is already mentioned in the Philippines' Constitution that the natural life, the flora and fauna, among others, belong to the State, and its access, development and use are under the Government's total control and supervision.

10. Brazil favors the strengthening of multilateral protection of genetic heritage in the global field. The proper commercial use of genetic heritage by countries that hold these resources has to consider the provisions of CBD. The results achieved by CBD parties as well as by the Brazilian Government will be impaired if there are no mechanisms to try to influence the coming

negotiations on trade and environment – revision of Article 27 (3) (b) of TRIPS and Millennium Round. In this context, it is important to countries that hold great amounts of biodiversity that CBD provisions be incorporated in WTO agreements, specially TRIPS (revision of article 27 (3) (b)).

11. Equally important is the launching, in the multilateral field, of negotiations to ensure that the origin of traditional knowledge and genetic resources is identified in requests for patents. The naming of the source of the biological resource is of paramount importance for the identification of the country that provides the resource in the process of benefit sharing, according to CBD. According to the Ministry of Development, research and development of new biochemical products, until they are patented, last for a period that ranges from 5 to 10 years and involves costs around 250 to 500 million dollars. It is estimated that access to traditional knowledge can reduce these numbers by 50%.

12. Discussions on the protection of traditional knowledge under the aegis of the CBD have focused, so far, on the following points:

- a) how to define the relevant terms, including traditional knowledge itself and the scope of the existing rights;
- b) the possibility of existing intellectual property rights regimes being used for the protection of traditional knowledge;
- c) options for the development of sui generis mechanisms for the protection of traditional knowledge.

13. The subject of the protection of traditional knowledge is currently being discussed in the ambit of the CBD, the WTO and WIPO, among others. Coordination among these fora is of the utmost importance, not only to avoid conflict but, specially, to enhance synergy among these instruments, in order to promote a comprehensive approach to all aspects of the relationship between CBD and TRIPS.

“SUI GENERIS SYSTEMS” FOR THE PROTECTION OF PLANT VARIETIES

14. The most widespread “sui generis” system for the protection of plant varieties is that established by the International Union for the Protection of New Varieties of Plants, known as “UPOV”. UPOV was established by the International Convention for New Varieties of Plants, signed in Paris in 1961. The Convention entered into force in 1968, and was revised in 1972, 1978 and 1991. The 1978 Act entered into force on November 8, 1981. The 1991 Act entered into force on April 24, 1998. Its purpose is to make available to breeders exclusive property rights with regard to new plant varieties, which must be distinct, homogeneous, stable and new to be eligible for protection. Protection is afforded to new varieties of plants as an incentive to the development of agriculture, horticulture and forestry and to safeguard the interests of plant breeders. Brazil has joined the UPOV Convention last April, by signing its 1978 Act.

15. Under the 1978 Act, the minimum scope of the plant breeder's right requires that the holder's authorization is necessary for the production for purposes of commercial marketing, the offering for sale and the marketing of propagation material of the protected variety. The 1991 Act contains more detailed definitions about right holder's rights, and enlarges the number of situations for which the holder's authorization is necessary. For example, the farmer must get the breeder's express authorization in order to save and replant seeds of protected varieties, subject in some cases to payment to the right holder.

16. The UPOV model for a "sui generis" system is not, however, an uncontroversial solution for the challenge of protecting new plant varieties. Among the many criticisms that are usually made towards UPOV, especially in its 1991 version, are the full commercial control over the reproductive material of varieties granted to breeders without any of the exceptions that existed in the 1978 Act; the lack of obligation by companies to share with countries in the South any benefit arising from biodiversity; UPOV's criteria for protection that might exacerbate erosion of biodiversity and weakens the rights of farmers in relation to breeders. To sum up, some critics argue that the entire UPOV system conflicts with the Convention on Biodiversity (CBD).

17. In Brazil, it is believed that the 1978 Act exhibits an adequate balance between the rights and obligations that are conceded to breeders and farmers. UPOV's 1978 Act stimulates enterprises to carry out projects and further research on plant varieties without depriving farmers from their rights. For example, Brazilian Law on the Protection of Plant Varieties, which was inspired by UPOV 1978 Act grants, as exceptions to the intellectual property rights enjoyed by breeders, the use of seeds for private purposes; the free use of the harvest, except for reproduction purposes; the use of a plant variety for research; the donation or exchange of seeds between farmers that take part in funding or supporting programs developed by the Government.(Article 10 of Law 9.456).

18. Law 9.456 defines as right holder the person or company that develops a new plant variety or a variety obtained from a significant improvement in a pre-existing one. The law establishes that the right holder is not the employee that actually obtained the new variety, but the enterprise or employer to whom he works, except in a specific case when the plant variety belongs to both parties. To be eligible for protection, the new variety must be distinct, have its own designation, be homogenous and stable, be proper for use in agriculture and have been described in a specialized publication easily accessible by general public. The exclusive right is not actually conferred on the plant variety itself, but on the propagating material, i.e, on seeds. The breeder has exclusive rights on the production with commercial purposes, the marketing and sale of propagation material.

19. The protection of plant varieties is entitled to a Governmental Agency known as "National Service for the Protection of Plant Varieties". Any breeder who wants to have his rights declared and recognized must address the Agency by means of a written submission. The submission must be in accordance with a certain criteria defined by the Law and the allowance

for commercial exploitation will depend on the issuance of a certificate after careful examination of the request. Finally, the use of a plant variety can be subject to compulsory licensing by the government in order to guarantee its availability on the market at a reasonable price, provided that the original right holder receives an adequate compensation for it. Besides compulsory licensing, there is also a provision that allows the Government to make public and non-commercial use of a plant variety in cases of national emergency or other circumstances of extreme urgency.

SUI GENERIS SYSTEMS FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE: SOME CONTROVERSIAL ISSUES

20. There are a few aspects in the discussion about the protection of traditional knowledge which pose difficulties for people who work with it. This section intends to give a brief overview of these aspects:

- The definition of traditional knowledge: there is no single definition for traditional knowledge, despite the fact all forms of it share a few common characteristics, such as collective responsibility and holding, oral transmission and dynamism. The dynamic character implies that it evolves with time, and each generation improves the traditional knowledge received from its ancestors. At the same time, there are two main kinds of traditional knowledge: the first related to access to genetic resources and another related to folklore which might have a protection closer to copyright or trademarks. Brazil regards both categories as very important. As for the first one (traditional knowledge associated with the access to genetic resources) one can speak of a significant economic value, as mentioned previously, specially in the pharmaceutical industry.
- Benefits of protection: a few benefits derived from protection to traditional knowledge can be easily identified, such as: a) the concession of prerogatives such as the possibility of preventing the exploitation without authorization of traditional knowledge and the reception of “royalties”; b) increasing development of the local communities; c) preservation of the knowledge; d) sustainable management of the environment; e) the elaboration of transparent rules to regulate the exploitation of traditional knowledge, which interests both developed and developing countries.
- The identification of the right holder: there is so far no consensus on who the right holder is. In some countries, almost the entire population could be considered indigenous or belonging to local communities. Even within a certain community is not easy to identify the right holder. Should this position be attributed to the community as a whole, or should the leader, in cases where he is the only person in the community with access to specific practices and information, enjoy a special status? In cases where the same knowledge is shared by two or more communities, could one of them prevent the other from making commercial use of it? With regard to this point, the Government of Peru tried to solve it by means of a public fund in charge of promoting the development of local communities and of distributing in a fair and equitable way the benefits of commercial exploitation. This initiative seems to indicate that

one possible role to be played by the Government in this area is that of managing the distribution of benefits arising from authorized use.

- Nature of protection: some analysts would like to make a differentiation between access to genetic resources for commercial purposes, and access for scientific purposes.
- Register: the creation of databases or repositories of information could contribute to clearly identify the communities and the knowledge subject to protection. Yet it remains to be decided whether the registry would be optional or obligatory, as well as the type of information to be disclosed in the occasion of the registry.
- The duration of the protection: should the protection of traditional knowledge be periodically renewed or should it be granted forever?