

THE IDEA OF SUSTAINABLE DEVELOPMENT TO RECONCILE THE ENVIRONMENTAL AND THE INTELLECTUAL PROPERTY PROTECTION OF PLANTS

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ABSTRACT

Sustainable development calls for environmental sustainability, economic sustainability and socio-political sustainability. The concept of *sustainable development* is enshrined in a number of global and regional treaties, declarations, and reports such as the Brundtland Commission Report, the Rio Declaration, Agenda 21, the Millennium Development Goals [MDGs], the Johannesburg Declaration and the Johannesburg Plan of Implementation, and the 2000 Cotonou Agreement between African, Caribbean and Pacific States and the European Union [the Cotonou Agreement].

The purpose of this Article is to integrate the requirements of the environmental protection of plant genetic resources (for example by the Convention on Biological Diversity [CBD]) into the intellectual property protection of plant genetic resources (patent laws and plant variety protection laws). The Article argues that, *first*, as the discussion in the following sections shows, the successful implementation of the CBD partly depends on the cooperation of other states and that there is thus a need for an international integration of environmental protection into development laws, policies and programs. *Second*, the intersection between the CBD /International Treaty on Plant Genetic Resources on Food and Agriculture [IT-PGRFA] and plant intellectual property laws, and Agreements have to be considered as one way for developed countries to fulfill the many promises given to developing countries under different laws, agreements and declarations such as the Marrakesh Agreement establishing the WTO, the TRIPS Agreement, the Rio Declaration, the MDGs, the CBD, the IT-PGRFA, the Treaty on the Functioning of the European Union, and the 2000 Cotonou Agreement.

Keywords: Sustainable Development, Intellectual Property, Plant Genetic Resources, CBD, IT-PGRFA.

OVERVIEW OF THE ISSUE: INTERFACE BETWEEN PGRS AND IPRS

There are generally, three issues that arise at the interface between the intellectual property protection of plants and the environmental/agricultural protection of plant genetic resources. These issues are highlighted by the differences that exist between the plant genetic resource- rich countries, and the technology resource-rich countries. Although it is not always true, developed countries are generally rich in technology and developing countries are rich in plant genetic resources. However, as an exception, Australia is for example not only rich in plant genetic resources but also rich in the biological technology that is essential for converting genetic variability into products (Will Steffen 2010). Furthermore, India and Brazil are cited as emerging developing countries with a certain level of biotechnology capacity (Robert Eugene Evenson 2002). However, these exceptions notwithstanding, it is generally accepted that the genetic resource-rich countries (mostly in the South) are the providers of these resources, and the developed countries (mostly in the North) are the users of these resources. Due to the differences in the level of plant genetic resources and in the level of technology that each country has, there is an international transaction in plant genetic resources.

States have the sovereign right to control their resources, and it was in the past theoretically possible for States to regulate access to their plant genetic resources. However, the regulation of access to plant genetic resources has become much more practically possible since the coming into force of the 1992 CBD. In that, the User Country or the User Company has to share the benefits to the Providing Country, and the Providing Country has to facilitate access to its plant genetic resources. Countries which are rich in plant genetic resources are mostly poor economically, and thus are not able to invest in the conservation and sustainable use of plant genetic resources. Therefore, access and benefit sharing are tools to enable, in financial and technological terms, genetic resource-rich countries to invest in the sustainable use and conservation of plant genetic resources. In this context, there are three or four overarching issues that arise at the interface between the IP protection of PGRs, and the environmental/agricultural protection of PGRs:

First, foreign companies' access to plant genetic resources can be regulated or unregulated. Companies use the intellectual property system to protect the products of their research and development, such as inventions by patent law or new varieties of plants by breeder's right law. The intellectual property system is a public system which companies use to protect their work (Blackburn 2003). Furthermore, genetic resource-rich countries wish to use the intellectual property system as a gate to check the companies' compliance with the CBD and the IT-PGRFA: *i.e.*, a benefit sharing requirement. The issue of including the disclosure of origin of plant genetic resources as a requirement in patent applications has been a matter for debate in international fora such as the Conference of the Parties [COP] to the CBD, the Council for TRIPS, and the World Intellectual Property Organization [WIPO]. Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore [IGC] (McManis, 2007).

The availability of financial resources and relevant technologies can make substantial differences to the world's ability to address the loss of biological diversity, and this is especially required to enable developing countries to invest in the conservation and sustainable use of biological resources (Principle 20, the Stockholm Declaration). In this regard, the Bonn Guidelines require the promotion of the necessary financial resources to genetic resource-providing countries, with a view to contributing to the achievement of the objectives of the CBD ((Article 11(h), the 2002 Bonn Guidelines, and Article 20(2) the 1992 CBD). Furthermore, the CBD has clearly stated that the extent of the implementation of the objective of the CBD by developing countries is dependent on the extent of implementation by the developed countries and their commitment to providing poor countries with financial resources and technology (Article 20(2), the 1992 CBD). Benefit sharing and the transfer of technology can contribute to poverty alleviation in developing countries (Article 20(4), the 1992 CBD).

Second, the sustainable protection of plant genetic resources is not a task for one season, but instead, in order to preserve plant genetic resources for the present and future generations, the conservation and sustainable use of the resources has to continue for an unlimited period of time. A genetic resource-rich but poor country, which hosts the majority of types of plant genetic resources, has to ensure sustainable access to its resources, and for that, the host countries have to be able to access a sustainable benefit sharing. For the protection to be sustainable, access to and benefit sharing from a country's plant genetic resources has to be sustainable. Therefore, the issue here is that the CBD reaffirms the sovereign right of States over their PGRs, and thus States have the right to regulate access to their PGRs, and have the right to demand benefit sharing – which aims to promote the sustainable protection of PGRs. On the other hand, plant intellectual property rights grants an exclusive right for the rightful owner of either a plant-related invention or a new variety of plant, who can use the genetic resource accessed from the source country. Thus, depending on the facts of the case, as *for example* the European Patent Office granting a patent on a plant-related invention or the European Community Plant

Variety Office granting a breeder's right in relation to new varieties of plants may create tension with States' sovereign rights to control their plant genetic resources. To resolve this issue, plant genetic resource-rich countries, especially the African ones, have insisted on the prohibition of patents on life forms.

The *third* issue has to do with farmer's privilege to farm saved seed. Some countries are mostly dependent on small-scale farming for the production of grain, the breeding of new varieties of plants and the distribution of seeds. *For example*, 87 % of the Ethiopian population is dependent on agriculture for its livelihood, and small-scale farming is dominant (Wana 2008). Therefore, for countries like Ethiopia, farmer's privilege is important in two ways. *First*, farmer's privilege to farm saved seed can enhance food security and ensure access to seed. *Second*, as the country depends on small-scale farming, and as the country is not financially capable of investing substantial sums to promote the sustainable use and conservation of plant genetic resources, farmer's privilege can serve as an incentive to encourage the farmers not only to conserve and use the resources sustainably, but also to breed new varieties of plants.

SUSTAINABLE DEVELOPMENT – HISTORICAL REVIEW

As a concept, *Sustainable Development* is concerned with three main areas: environmental sustainability, economic sustainability, and socio-political sustainability. The idea of sustainable development brings together environmental issues, development and socio-political issues. Therefore, the idea of sustainable development can serve as a framework to solve problems arising at the interface between the CBD or an environmental law and intellectual property laws, which are mainly tools for development. Specifically on issues of plant genetic resources, there is a division between the North and the South. The North, and specifically user countries, must cooperate with countries in the South so as to realize the implementation of the CBD, i.e. to achieve benefit-sharing. The concept of sustainable development not only requires integration between environment and development, but also integration among States (Bosselmann 2008). Thus, the idea of sustainable development is suitable to promote the integration of environmental considerations (CBD/IT-PGRFA) into the IPR regime of plant genetic resources.

The need to balance the three aspects of sustainable development was recognized by human society long ago. The concept of sustainability is believed to have existed some 600 years ago, and what is new is the inclusion of the idea of sustainable development in different laws at different levels (Markus W. Gehring 2005). The inclusion of the concept of sustainability in legal documents has evolved since 1972, when the international community at the UN Conference on the Human Environment, held in Stockholm, showed a link between the environment and people's quality of life (Peter P. Rogers 2008). The Stockholm Declaration demanded the safeguarding of natural resources for the benefit of the present and the future generations (Principle 2, the Stockholm Declaration). Furthermore, the 1963 African Convention on the Conservation of Nature and Natural Resources, implying the idea of sustainability, states in its Preamble that, "the utilization of natural resources must aim at satisfying the needs of man according to the carrying capacity of the environment."

The 1980 World Conservation Strategy is one of the key documents, which for the first time explicitly deals with environment and development (Voigt September 2006). The World Conservation Strategy emphasizes three objectives: (1) to maintain essential ecological processes and life support systems, (2) to preserve genetic diversity, and (3) to preserve the sustainable utilization of species and ecosystems (World Conservation Strategy). Later, in 1983, the World Charter for Nature, which succeeded the World Conservation Strategy, strengthened the link between environment and development under Principle 4:

“Ecosystems and organisms as well as the land, marine, atmospheric resources that are utilized by man, shall be managed to achieve and maintain optimum *sustainable productivity*, but not in such way as to endanger the integrity of those other ecosystems or species with which they coexist” (emphasis added)

The 1987 Report of the World Commission on Environment and Development (WCED), commonly known as ‘Our Common Future’ or the ‘Brundtland Report’ after its chair Gro Harlem Brundtland (the former Prime Minister (1981) and the Minister of the Environment (1974-1979) of Norway), applied the concept of sustainable development to addressing challenges of environmental degradation and social and economic development by recognizing that economic and environmental goals are inextricably linked (WCED 1987). The concept of Sustainable Development took a central stage at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, and it forms the central part of the Rio Declaration and Agenda 21 (Preamble, Agenda 21). Environmental sustainability is one of the ten Millennium Development Goals. Further, the 2002 Johannesburg World Summit on Sustainable Development (WSSD) states that biodiversity plays a critical role in overall sustainable development (Paragraph 44, the Plan of Implementation of the World Summit on Sustainable Development). The 2002 New Delhi Declaration of Principles of International Law Relating to Sustainable Development notes that the concept of sustainable development is recognized in many international and national legal instruments (Preamble, ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development).

SUSTAINABLE DEVELOPMENT: MEANING AND LEGAL STATUS

The concept of sustainable development has been gaining political recognition for more than two decades now, and the World Summit on Sustainable Development in Johannesburg affirmed that sustainable development is an international priority (Fisher 2008). However, despite an increasing recognition of sustainable development, there are two problems attached to the term: *first*, there is no unitary definition, and *second*, the legal status of sustainable development is not yet clear.

There is no unitary definition given to the term sustainable development, and the many different interpretations are confusing (Peter P. Rogers 2008).“The concept of sustainable development is open to many interpretations of being anything from almost meaningless to of extreme importance to humanity”(Bill Hopwood 2005). The many different meanings attached to the concept of sustainable development, and the resulting ambiguity, is due to the complexity of the phenomena that affect the natural and social world, both at the local and global level (Soussan 2004). However, what is common for all the different meanings attached to the term sustainable development is that they all focus on some notion of balance among the different competing claims (Stillwell 2005). Even if different people and different organizations attach different meanings to the idea of sustainable development, the definition given by the Brundtland Report is said to be not only the most quoted definition, but also the best-known articulation of the concept of sustainable development (Leonardo Alberto Rios Osorio 2005; Ellis 2008). The Brundtland Report defined sustainable development as “development that meets the needs of the present without compromising future generations to meet their own needs” (WCED 1987).

Dire Tiladi in his book entitled ‘Sustainable Development in International Law’, argues that the best approach is to see the concept of sustainable development as a principle emanating from the interface between international human rights law, international economic law and international environmental law (Tiladi 2007). Some consider sustainable development as an international law of its own. For example, Hari M. Osofsky considers sustainable development to be a

customary international law, and Klaus Bosslmann states that sustainable development is accepted at the international level as a global policy and is “an integrated part” of international environmental law (Osofsky 2003; Bosselmann 2008).

Some consider sustainable development to be an umbrella concept that draws together a series of legal and policy principles. Duncan French argues that, at present, sustainable development is not and is unlikely to become a binding principle of international law (French 2005). By comparison, Christina Voigt argues that due to its normative force, broad scope and support in the international community, sustainable development should be classified as a general principle of law (Preamble, ILA New Delhi Declaration of Principles of International Law Relating to Sustainable).

Some other scholars consider sustainable development to be a relevant concept for legal argumentation, which helps jurists and decision-makers to analyze and weigh legal argumentation. The idea of sustainable development helps to distinguish the most relevant considerations from the less relevant ones and the strong arguments from the weak ones; thus, the application of the concept of sustainable development can help decision-makers reach appropriate solutions whenever there is an interface between the environment, development, and socio-political issues. In that regard, Ellis Jaye considers sustainable development to be a policy objective, or a concept that informs and influences the development and interpretation of international law (Ellis 2008).

Sustainable development was endorsed as a policy objective by world leaders at the 1992 Rio Earth Summit (William M. Lafferty 2000). Furthermore, the 2002 New Delhi Declaration of Principles of International Law Relating to Sustainable Development notes that sustainable development is widely accepted as a global objective (Preamble, ILA New Delhi Declaration of Principles of International Law Relating to Sustainable).

The New Delhi Declaration provides the most current benchmark of the important principles that support the concept of sustainable development (David Armstrong 2009). In this Article, it is argued that Sustainable Development as a global objective should be applied to reconcile the tensions between the environmental/agricultural protection of plant genetic resources and the intellectual property protection of plant genetic resources. In order to achieve that, the international community has to apply international principles to realize the idea of sustainable development by means of principles such as the principle of sustainable use, the principle of integration, and the principle of equity.

SUSTAINABLE DEVELOPMENT: THE EU, AFRICA, AND ETHIOPIA

The influence of the concept of sustainable development has significantly increased in national and international development policy documents (Patricia W. Birnie 2002). Furthermore, in accordance with international laws and declarations embracing the idea of sustainable development, national and regional laws have recognized the concept of sustainable development. For example, it is one of the objectives of the European Union to promote the sustainable development of not only EU Member States, but also the sustainable development of the Earth (Article 3(5), EU Treaty). Supporting the Earth’s capacity to support life in all of its diversity is one of the key objectives of the EU Sustainable Development Strategy [EU SDS]. In order to achieve that, the EU SDS requires the European Union’s internal and external policies to be consistent with global sustainable development in a way that meets the EU’s international commitments.

The EU SDS requires the inclusion of sustainable development in all of the EU’s external policies, including multilateral and bilateral development cooperation. Specifically, the EU SDS requires investments through the European Investment Bank and the EU-Africa Partnership for infrastructure to support sustainable development objectives. With this, the EU aims to fulfill the commitments of the EU with regard to internationally agreed goals and targets, such as the Millennium

Declaration and the goals of the World Summit on Sustainable Development, held in Johannesburg in 2002. One important document to mention is the 2000 Cotonou Agreement between African, Caribbean and Pacific States and the EU. The Cotonou Agreement explicitly endorsed sustainable development as an essential aspect for promoting the agreement's full implementation (Article 1, the Cotonou Agreement).

From the African countries' perspectives, under Article 3(j) of the African Union Constitutive Act, one of the objectives of the African Union is the promotion of sustainable development at the economic, social and cultural levels (Konstantinos D. Magliveras 2002). At a national level, taking Ethiopia as an example, Article 43 of the Constitution of the Federal Democratic Republic of Ethiopia is devoted to the right to development. According to Article 43(1), the right to improved living standards and the right to sustainable development are given for the peoples of Ethiopia as a whole and to each nation, nationality and peoples in Ethiopia. Furthermore, the Constitution requires that all international agreements and relations concluded, established or conducted by the State shall protect and ensure Ethiopia's right to sustainable development.

Even if it might not be a simple task to list fully the implications of the inclusion of the right to sustainable development in the Constitution of the Federal Democratic Republic of Ethiopia, the effort should be appreciated. Specifically, the requirement that all international agreements that Ethiopia intends to sign must support the sustainable development of the country is part of this effort. If followed carefully, Article 43(1) of the Constitution of the Federal Democratic Republic of Ethiopia requires the evaluation of international agreements, to see whether they support the sustainable development of the country, before Ethiopia signs the agreement.

In a nutshell, the idea of sustainable development is enshrined in international agreements, regional laws, and national laws. However, the question which needs to be answered is: in what ways is the idea of sustainable development significant? The following section discusses the idea of sustainable development in relation to the intellectual property protection of plants.

SUSTAINABLE DEVELOPMENT & THE IP PROTECTION OF PLANTS

The 1994 WTO Agreement on Trade Related Aspect of Intellectual Property Rights [TRIPS] sets the minimum requirement for the different types of intellectual property rights, which Member States to the WTO has to comply with. Regarding plants, Article 27.3(b) of the TRIPS Agreement requires the availability of intellectual property protection for new varieties of plants either by patent, or by an effective *sui generis* system (meaning of its own type) or by combination of both. Thus, different countries provide different types of intellectual property protection for new plant varieties, such as protection by patent law, plant variety protection law, and *sui generis* system. The concept of intellectual property began to encounter the concept of development in the early twenty-first century (Chon 2006). This can be seen from an ongoing discussion in the World Intellectual Property Organization [WIPO] and the World Trade Organization [WTO].

The WIPO has established a Development Agenda Coordination Division [DACD] to mainstream the development agenda within the WIPO. The WIPO is involved in sector-specific issues related to development, such as issues of how to coordinate obligations under the CBD and the TRIPS Agreement. In 2004, the WIPO's 31st General Assembly agreed to further examine the development dimension of all its activities. The Development Agenda proposal requires the WIPO as an agency of the UN to implement its functions in light of the various initiatives of the United Nations, including the Millennium Development Goals. In that, WIPO has to consider among others the MDGs call for integration of

environmental issues into development issues, into all the WIPO activities. Furthermore, the Marrakesh Agreement establishing the WTO included the sustainable development objectives in the preamble by stating the following:

“Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development,” (emphasis added) (The 1994 Marrakesh Agreement Establishing the WTO)

In his legal writing, Henning Grosse Ruse-Khan argues that the inclusion of the objective of sustainable development in the preamble of the WTO's founding agreement has implications for other Agreements of the WTO such as the TRIPS Agreement (Ruse-Khan 2010). Consideration of the objective of sustainable development can solve issues arising at the interface between trade laws and environmental laws, *for example* it can help to address issues arising at the interface between the TRIPS Agreement and the CBD. On this point, the EU Sustainable Development Strategy [EU SDS] plans to promote sustainable development in the context of the WTO negotiations in accordance with the Preamble to the Marrakesh Agreement establishing the World Trade Organization.

According to Article 8 of the TRIPS Agreement, Member States may adopt measures that are necessary to protect public health and nutrition and to promote the public interest in sectors of vital importance to their socio-economic and technological development. However, the detail of how to ensure environmental protection is left to the Member States. Furthermore, the analysis of intellectual property rights and development issues are sector-specific; *i.e.*, patent law and the right to obtain medication (Chon 2006). In an illustration of a development aspect of the TRIPS Agreement, the WTO Ministerial adopted a declaration on public health, which also addressed the issue of “bio-piracy” and the relationship between the implementation of the CBD and the TRIPS Agreement. Paragraph 19 of the Ministerial Declaration, adopted in Doha by WTO Trade Ministers, states:

“We instruct the Council for TRIPS, in pursuing its work programme including under the review of Article 27.3(b), the review of the implementation of the TRIPS Agreement under Article 71(1) and the work foreseen pursuant to paragraph 12 of this Declaration, to examine, inter alia, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by Members pursuant to Article 71(1). In undertaking this work, the TRIPS Council shall be guided by the objectives and principles set out in Articles 7 & 8 of the TRIPS Agreement and shall take fully into account the development dimension.” (Emphasis added) (Paragraph 19, the 2001 Doha Ministerial Declaration).

After the Doha Ministerial Meeting in November 2003, the discussion at the WTO regarding the TRIPS Agreement included development concerns such as public health and the “bio-piracy” of the plant genetic resources, and in 2004 the TRIPS Council received different submissions that, among other issues, included a proposal for mandatory disclosure requirements in patent applications (Maria Julia Oliva 2005). The request by plant genetic resource-rich countries for the consideration of the requirements of the CBD in regard to the TRIPS Agreement is considered as a development aspect of the Agreement (Alam 2007).

The effect of the TRIPS Agreement on the development, transfer and dissemination of technology has also been identified as a major concern for sustainable development. As noted in Agenda 21, “Access to and transfer of environmentally-sound technologies are essential requirements for sustainable development.” Furthermore, Article 7 of the TRIPS Agreement refers to “the transfer and dissemination of technology to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare.” On this point, and specifically on intellectual property rights to plant genetic resources, the implementation of a Material Transfer Agreement on plant genetic resources can support the transfer of technology. Parties to a Material Transfer Agreement can agree on the transfer of technology as one type of benefit sharing. Thus, what is important is not only the inclusion of such terms in the agreement, but also the implementation of the Material Transfer Agreement so that there is a transfer of technology.

PRINCIPLES SUPPORTING THE IDEA OF SUSTAINABLE DEVELOPMENT

Even if the legal status of sustainable development is not very clear, there are international principles that support the idea of sustainable development, such as the principle of integration, common but differentiated responsibility, inter- and intra-generational equity, the duty to co-operate for global development and protection of the environment. Environmental principles inspire the creation of international environmental law and entail legal obligations in them (Macrory 2006).

Inter-generational equity requires each generation to use and develop its natural resources in such a manner that it can be passed on to future generations in no worse condition that it was received, while, intra-generational equity addresses “the right of all peoples within the current generation of fair access to the current generation’s entitlement to the earth’s natural resources.”(Principle 2, the 2002 New Delhi Declaration of Principles of Sustainable Development). To apply the idea of sustainable development to reconcile the IP protection of plant genetic resources, and the environmental/agricultural protection of plant genetic resources, the following sections particularly discuss the principle of integration and the requirement under the CBD and the ITPGRFA that the North should support the South in matters of environmental protection.

THE PRINCIPLE OF INTEGRATION

The Principle of Integration was identified as an important aspect of sustainable development under the 2002 ILA New Delhi Declaration of Principles of International Law relating to Sustainable Development. According to Article 11 of the Consolidated Version of the Treaty on the Functioning of the European Union [the EU Treaty], environmental protection requirements must be integrated into the definition and implementation of the Union’s policies and activities.

“Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development” (Article 11, the 2010 EU Treaty).

The link between the principle of integration and sustainable development is clearly strengthened by the fact that Article 11 of the EU Treaty requires the integration of environmental requirements into the EU’s policies and activities, “in particular with a view to promoting sustainable development” (Macrory 2006).

By applying the principle of integration, there should be a balance between the three different and oft-competing objectives of sustainable development (Ellis 2008). Illustrating the importance of the principle of integration, the Rio Declaration states that ‘in order to achieve sustainable development, environmental protection shall constitute an integral

part of the development process and cannot be considered in isolation from it' (Principles 4, the 1992 Rio Declaration). Hence, integration is a requirement for the attainment of sustainable development. Henning Grosse Ruse-Khan summarizes the role of sustainable development in international law as a principle of integration and reconciliation (Ruse-Khan 2010).

NORTH-SOUTH SUPPORT

The duty to cooperate, especially in matters of environmental protection, is required under many international documents such as the Rio Declaration, the Stockholm Declaration, Agenda 21, the CBD and the IT-PGRFA. The Johannesburg Declaration on Sustainable Development urges developed countries to pay special attention to the developmental needs of small islands, developing states and the least developed countries (Paragraph 22-24, the 2002 Johannesburg Declaration on Sustainable Development). In an effort to reverse the loss of biodiversity, the CBD, IT-PGRFA, Bonn Guidelines and the MDGs require cooperation between the North and the South. The Stockholm Declaration states that international cooperation is needed to raise resources to support developing countries in carrying out their responsibilities such as the conservation and sustainable use of biodiversity

The IT-PGRFA requires international cooperation specifically to establish or strengthen the capabilities of developing countries with respect to conservation and the sustainable use of plant genetic resources for food and agriculture (Article 7(2), the 2001 IT-PGRFA). North-South cooperation (as required by the CBD) is not limited to the provision of additional financial resources to the South, and it includes the exchange of information, and technical and scientific cooperation (Article 17 and 18, the 1992 CBD).

Similarly, according to Article 8 of the 2001 IT-PGRFA, the Contracting Parties agree to “promote the provision of technical assistance to Contracting Parties, especially those that are developing countries or countries with economies in transition, either bilaterally or through the appropriate international organizations.” Therefore, the implementations of the Material Transfer Agreements on genetic resources can be one way to support the technical assistance requirement of the IT-PGRFA and the CBD.

APPLICATION OF THE PRINCIPLE OF INTEGRATION

The principle of integration requires states to take an integrative approach in their decision making (Macrory 2006). Some argue that only areas that have concerns arising at the interfaces should be considered for integration (Ruse-Khan 2010). The principle of integration only requires the approach to be integrative, and does not require States to reach a certain outcome. Therefore, provided that there is no international agreement requiring States to act in a certain way, they are free to make decisions that fit their policy choices and value judgments.

The 1992 CBD (Article 6(b)) and the 2001 IT-PGRFA (Article 7) require integration of the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programs and policies. The 2001 IT-PGRFA, in its Preamble requires other treaties that are relevant for the IT-PGRFA to be mutually supportive with a view to achieving sustainable agriculture and food security. Thus, neither the CBD nor the IT-PGRFA lay down a specific way to integrate the sustainable protection of plants into other sectoral activity. Similarly, at a national level, to avoid the degradation of biological resources, the Biodiversity Policy of Ethiopia (Section 3(9)) requires the national policy on biodiversity to be integrated and supported by policies and strategies on the economy, agriculture, health, education, and so forth.

At the national level, integration of environmental concerns into development policies can be achieved by considering environmental issues when formulating development policies and plans. The CBD recognized the fact that intellectual property laws may influence the implementation of the CBD; it calls for the two fields of law to support each other (Article 16(5), the 1992 CBD). However, the CBD left the decision on how exactly to make the two fields of law support one another to the signatory States. Considering the fact that there is no international document that requires States to act in a certain way, they have substantial room to promote their own policies in deciding as to whether there is an interface between the CBD and the plant IP laws and whether there is a need to integrate the two fields of law.

Depending on the policy preferences of individual States, the decision on integrating the two fields varies. For example, Ethiopia as a plant genetic resource-rich country has integrated the environmental protection of plants into the intellectual property protection of plants. Although it is difficult to judge whether the exact nature of the integration is appropriate or not, the country has used its breeder's right law as a means to ensure compliance with the CBD. Specifically, a breeder is required to show "a proof that he has obtained the genetic resource used to develop the variety in accordance with the relevant laws on access to genetic resources" (Article 14(3), Ethiopian Plant Breeder's Right Proclamation 481/2006).

However, if there is an international decision or law on how to integrate the intersecting fields, then States will have little room to promote their individual policy objectives in the process of integrating those intersecting fields (Ruse-Khan 2010). To give a hypothetical example, if the TRIPS Agreement were to require members of the WTO to include in their plant intellectual property laws a mandatory requirement on disclosure of origin or proof of a material transfer agreement (to show compliance with the requirement of the CBD), then States would not have much room to choose how to integrate the CBD into their IP laws. In relation to that, even if a country does not have much in the way of plant genetic resources, but does hold many plant intellectual property rights, and does not want to include the disclosure requirements (which can be a barrier for the IP applicant), if the TRIPS Agreement so requires, then the country will have to comply.

Since there is not yet an international law which lays down a specific way to integrate the requirements of the CBD into the TRIPS Agreement or the sustainability of plants into the plant IP laws, if integration is to be required at international level, States must *first* agree on the very existence of the interface between the environmental protection of plants and the intellectual property protection of plants; *second*, States must agree on ways and means to integrate the environmental protection into development. The interface between the TRIPS Agreement and the CBD has already been debated in international fora for a long time (McManis 2007). However, there is no consensus on how to reconcile the protection of plant intellectual property rights on the one hand and the sustainable protection of plants on the other (Micheal Handler 2009). In that regard, there are different proposals on how to integrate the CBD into the TRIPS Agreement such as disclosure of origin, proof of certificate on access to plant genetic resources, and benefit sharing in relation to plant genetic resources.

In relation to the integration of the environmental protection of plants by the CBD into plant intellectual property laws, this Article makes three arguments. *First*, there is an interface between the CBD and the intellectual property rights (to be further discussed in Article seven). This situation can be clearly seen from the long debate between the North and the South not only in relation to the inclusion of the requirement of mandatory disclosure of the origin of plant genetic resources into patent and plant variety protection laws, but also in the long debate on the patenting of life forms.

Second, the interface is not limited to the national level. This is because the transaction (access and benefit sharing) in plant genetic resources is not only happening within a country. In that, because of the differences between States (some are rich in technology, and some are rich in plant genetic resources), the transaction is at international level. Therefore, the intersection between plant intellectual property laws and the sustainability of plant genetic resources is happening at the international level too, for example, the interface between European Plant intellectual property rights and Ethiopian laws for the sustainability of plant genetic resources. Ethiopia enacted its proclamation on access and benefit sharing to implement the requirements of the CBD, *i.e.* to enhance the sustainable protection of plants by way of access and benefit sharing. As the transaction in Ethiopian plant genetic resources is happening between the Ethiopian government and other countries (or companies having their place of business in other countries), the interface is thus between the Ethiopian access and benefit sharing laws, and the intellectual property laws of other countries.

Third, in order to integrate the CBD into the intellectual property laws of countries, there have to be international laws that require States to do so. Due to differences in public policy, some States may prefer to integrate the CBD into their IP laws, while others may not. For example, Ethiopia has integrated the elements of the CBD into its breeder's right law. However, even if States are free to choose how to integrate the CBD into their development policies, laws and plans, the existence of an international law requiring specific ways (for example mandatory requirement of disclosure in plant intellectual property laws) is important. This is because the sustainable protection of plant is for the benefit of mankind (Ninan 2009). The fact that a country invests in the sustainable protection of plants in its broadest sense is for the benefit of mankind, and the benefit is not limited to the interest of that particular country. Therefore, in order to promote sustainable development, to enable the poor countries of the world to invest in the sustainability of plants, all countries should support the integration of the requirements of the CBD into the TRIPS Agreement or the integration of the CBD into their national plant intellectual property laws.

INTEGRATION AS A MEANS TO FULFIL INTERNATIONAL PROMISES

The European Union, as a signatory to the CBD and the IT-PGRFA, not only agreed to ensure the protection of biodiversity in the EU, but also agreed to support developing countries in implementing the CBD and the IT-PGRFA (Article 16(3) Article 20(2)- Financial resource support to help developing countries, Article 18(2)- technical cooperation to help developing countries, the 1992 CBD). The principle of integration under the EU Treaty supports the idea that the North should consider the implementation of environmental laws by the South in its development plans. For example, this is illustrated by inclusion of the principle of integration in the EU Treaty.

Furthermore, the EU SDS has reaffirmed the EU's commitment to promoting the sustainable development of not only EU Member States, but also the sustainable development of the Earth. The EU's commitment to promoting the sustainable development of the Earth is exemplified by the inclusion of sustainable development as one of the objectives of the 2000 Cotonou Agreement between the African, Caribbean and Pacific countries, which has attempted to integrate the idea of sustainable development.

Furthermore, not only the European Union, but also, generally, countries in the North have promised to support the sustainable development of the Earth in various different legal documents, including the Marrakesh Agreement establishing the WTO, the MDGs, and the Rio Declaration. Therefore, the plant genetic resource-rich countries' request for the international community to integrate the environmental protection of plant genetic resources into intellectual

property protection can be considered as one way to realize the many promises given to promoting sustainable development.

Integrating the concerns of the CBD into intellectual property laws (for example, the disclosure of origin of plant genetic resources in patent applications) will ensure that genetic resource-providing countries will obtain benefit-sharing from the utilization of their resources. Fair and equitable benefit-sharing for the genetic resource-rich but economically poor countries is not only a financial resource but also an incentive for these countries to invest in the conservation and sustainable use of plant genetic resources. Furthermore, benefit-sharing and the transfer of technology, according to the Material Transfer Agreements, can be a means of supporting the sustainable development of poor countries; it can contribute to the reduction of poverty, and reverse biodiversity loss.

CONCLUDING REMARKS

In summary, sustainable development has a different status for different groups and nations. Under the 1995 Constitution of the Federal Democratic Republic of Ethiopia, sustainable development is considered a right, though its implementation is far from a reality for a country that is struggling to escape from poverty. Under the 2000 Cotonou Agreement between African, Caribbean and Pacific States and the European Community, sustainable development is considered as a policy objective. In fact, the MDGs present this as a principle. Some scholars consider it a global policy, while others consider it a concept to support legal argumentation.

Despite the different status given to sustainable development by different scholars, the concept of sustainable development is gaining increasing importance. Therefore, this Article has sought to argue for the application of the concept of sustainable development to support the consideration of environmental issues (such as the requirements of the CBD) into developmental issues (such as intellectual property laws).

The world's poor countries are providers of plant genetic resources, and countries in the North are the users of plant genetic resources, and are thereby owners of many intellectual property rights. The full realization of the implementation of the CBD greatly depends on the cooperation of plant genetic resource user countries. There is therefore a need for integration between the CBD and intellectual property rights not only at the national level, but also at the international level. If the integration of the CBD into IPR laws occurs, then it will not only support implementation of the CBD, but also satisfy the many promises that the North gave to the South, including promises under the MDGs, the Rio Declaration, the North-South support requirement under the CBD and the IT-PGRFA, the sustainable development promises under bilateral and multilateral trade agreements, and the European Union's promise to promote the sustainable development of not only the Member States of the EU but also other countries.

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