
46th Annual ISA Convention, Honolulu, Hawaii, March 1-5, 2005

WD25 Wednesday 3:45 - 5.30 PM

What can International Regimes Do for Me? The Uses of Global Governance

**The Interaction between International Agreements
Pertaining to the Management of
Plant Genetic Resources for Food and Agriculture
and the Response of Developing Countries**

Regine Andersen¹

**Research Fellow
The Fridtjof Nansen Institute
P.O. Box 326
N- 1326 Lysaker
Norway**

E-mail: Regine.Andersen@fni.no

¹ I would like to thank Arild Underdal, Cary Fowler, G. Kristin Rosendal and Jon Birger Skjærseth for their valuable comments on various chapters of the doctoral dissertation, on which this paper is based. I would also like to thank G. Kristin Rosendal and Maryanne Rygg for their helpful comments on this paper.

Abstract

This paper is about the interaction between regimes with different rationales pertaining to one issue area, the management of plant genetic resources for food and agriculture. It analyzes some of the patterns of this interaction and the response of developing countries. The conclusion is that a systematic grasp of the aggregate effects of regimes, of the time dimension in regime interaction, and of the way in which various actors select different regimes as forums for influence may improve the uses of international agreements as a means of global governance.

1. Introduction

Plant genetic diversity is crucial to the breeding of food crops and thus one of the central preconditions for food security. Access to diverse genetic resources is vital to modern plant breeding, as it provides the genetic traits required to deal with crop pests and diseases, as well as with changing climate conditions. It is also essential for traditional small-scale farming, on which approximately 1.4 billion people worldwide depend for their livelihoods.² Traditional small-scale farmers maintain the yields and quality of their crop varieties by the exchange of seeds and seedlings over short and long distances, as they have done since the dawn of agriculture. Without genetic renewal, the yields will decrease and the quality will deteriorate. Thus, plant genetic diversity is an indispensable factor in the fight against poverty.

However, the diversity of domesticated plant varieties is disappearing at an alarming rate, and for several major crops the variety losses have been up to 80–90 per cent over the past century.³ At the same time, interest in the commercial use of genetic resources has increased in line with growing economic stakes of the bio-technologies, followed by demands for intellectual property rights. As patent systems are costly institutions, the capacity of developing countries to develop and effectively use such systems is limited. Because of this and for other reasons, there has been much protest against intellectual property rights from the South, along with demands for protecting farmers' and indigenous peoples' rights and ensuring a fair and equitable sharing of the benefits arising from the use of these vital resources.

The international community has responded with regimes fully or partly pertaining to agricultural plant genetic resources: The Convention on Biological Diversity (CBD), the Agreement on Trade Related Intellectual Property Rights (TRIPS) of the World Trade

² Approximately 1.4 billion people live in farm families that are largely self-reliant and self-provisioning when it comes to seeds and other planting materials, according to Cary Fowler et al. (in Brush, 2000). According to the FAO database, the total number of people depending on agriculture in 2001 was 2.48 billion, including persons depending on hunting, fishing or forestry and their non-working dependants.

³ There are few exact figures on the extent and pace of genetic erosion in agriculture. However, nearly all the 154 countries reporting to the FAO for the Leipzig Conference in 1996 (FAO, 1998) maintained that genetic erosion is a serious problem. In China an estimated 90 per cent of the 10,000 wheat varieties that were grown a century ago have been lost. In Mexico an estimated 80 per cent of the maize varieties that were grown in the 1930s are gone.

Organization,⁴ and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). These regimes have emerged from different rationales and interests, resulting in more or less different functional scopes, goals and emphases. What they all have in common, is that they affect the management of plant genetic resources for food and agriculture (PGRFA)⁵.

The case of regimes pertaining to PGRFA is one example of the increasing number of regime constellations, where two or more international agreements have overlapping functional scopes pertaining to one and the same issue area.⁶ These developments give rise to the need for an analytic grasp of the interaction between overlapping international agreements and its effects.

This paper is based on a doctoral dissertation, which is currently in its final stages, and in which the effects of the above mentioned overlapping regimes for the management of PGRFA in developing countries have been analyzed. Three of the findings will be highlighted in the paper, thereby emphasizing their relevance for developing countries:

- The aggregate effects (Sprinz, Hovi, Underdal and Mitchell, 2004) of regimes with overlapping functional scopes, i.e. the sum of individual regime effects and the interaction effect (ibid.: 3), differed substantially from the intended effects of the respective separate regimes in several cases. This observation highlighted the importance of not only studying the effects of the relevant separate regimes in order to explain aggregate effects. The interaction between the regimes was decisive for several of the aggregate effects.
- In studying regime interaction, the time dimension was crucial. Regime constellations changed throughout the period under scrutiny in the dissertation (1992–2002), and a systematic analysis of the regime interaction uncovered changing constellations between the regimes with regard to synergies, barriers and strategic opportunities.⁷
- These changing constellations were *inter alia* a result of ‘forum shopping’⁸: The actors behind regime interaction selected regimes as forums for influence according to their interests and bargaining power, and shifted negotiation foci according to the dynamics of regime formation. A more thorough view of the process of forum

⁴ Following from the provisions in the TRIPS Agreement on intellectual property rights to plant varieties, also the International Union for the Protection of Varieties of Plants, UPOV, has become relevant in this context, as will be further explained below.

⁵ Plant genetic resources for food and agriculture encompass the diversity of genetic material in traditional varieties and modern cultivars, as well as crop wild relatives and other wild plant species used as food, according to the prevailing FAO definition (FAO, 1998). This paper focuses on the management of domesticated PGRFA.

⁶ Regime overlap was first defined by Oran Young (1996), and is understood as a situation that occurs when individual regimes, which are formed for more or less different purposes, intersect on a *de facto* basis. It implies that the functional scope of one regime protrudes into the functional scope of at least one other regime.

⁷ The findings on the time dimensions were first published in 2002 (Andersen 2002).

⁸ Giellespie (2002), Kellow and Zito (2002), and Rothwell (2004) have analyzed the phenomenon of ‘forum shopping’ in different settings.

shopping uncovers different types of mechanisms of influence. Understanding these mechanisms may enable more effective implementation of international environmental agreements.

It will not be possible to go in depth on these findings in this paper. Rather I will seek to highlight the essence of observations and analysis. But first we need to establish the basic facts on the international regimes in question and on the issue area of PGRFA.

2. Basic facts on the international agreements pertaining to PGRFA

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was adopted at the Thirty-first session of the Conference of the Food and Agriculture Organization of the United Nations (FAO) in Rome on 3 November 2001. It entered into force on 29 June 2004, and is the first legally binding agreement exclusively pertaining to the management of PGRFA. Its objectives are the conservation and sustainable use of these resources, and the fair and equitable sharing of the benefits arising from their use – in harmony with the CBD – for sustainable agriculture and food security. The most important benefit to be provided from the use of PGRFA is that of access to these vital resources for food and agriculture. The predecessor of the ITPGRFA was the International Undertaking (IU), which was aimed at conservation of, and access to, PGRFA. It was adopted in 1983 but was not legally binding.

The Convention on Biological Diversity (CBD) was the first international treaty to address the conservation, sustainable use and equitable sharing of benefits derived from the utilization of biological diversity in general. It was opened for signing at the United Nations Conference on Environment and Development in Rio in 1992, and entered into force on 29 December 1993. In its general approach to biological diversity, it did not differentiate between types of biological diversity, such as e.g. terrestrial and marine biological diversity or domesticated and undomesticated biological diversity. Later, the Conference of the Parties established thematic work programs on various components of biological diversity, one of which is on agricultural biodiversity⁹, and for which a working program with time table and reporting schedule was adopted in 2002 (Decision VI 5 of the CBD Conference of the Parties).

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was adopted on 14 April 1994 as one of the three basic agreements, on which the World Trade Organization (WTO) was built.¹⁰ The WTO agreement, which established the new organization, entered into force on 1 January 1995. The TRIPS Agreement came into effect one year later, on 1 January 1996 (Article 65.1). However, developing countries were entitled to extend their implementation of the TRIPS Agreement until 1 January 2000, and least developed countries were granted a 10-year extension, until 1 January

⁹ The other working programs address marine and coastal biodiversity, forest biodiversity, the biodiversity of inland waters, and dry and sub-humid lands.

¹⁰ The other two were the General Agreement on Tariffs and Trade (GATT), which pertains to goods, and the General Agreement on Trade in Services (GATS), which pertains to services. In addition there is the agreement establishing the WTO, and a number of extra agreements and annexes dealing with the special requirements of specific sectors and issues.

2006 (Article 65.2), with the possibility of further extension of the period upon duly motivated requests to the TRIPS Council (Article 66.1).

The TRIPS Agreement provides minimum standards for the protection of intellectual property rights in the member states. It covers intellectual property rights such as copyrights, trademarks, geographical indications, industrial design, and patents. Article 27.3(b) provides that plants and animals other than micro-organisms, and essential biological processes for the production of plants or animals other than non-biological and microbiological processes can be excluded from patentability. The condition is that the members "provide for the protection of plant varieties, either by patents or by an effective *sui generis* system or by any combination thereof". The limits for a *sui generis* system and the meaning of an effective *sui generis* system were, however, not explicitly defined in the text, and there is confusion as to how this shall be understood. The International Union for the Protection of New Varieties of Plants (UPOV)¹¹ has advocated that the most effective way to comply with the provision of an effective *sui generis* system is to follow the model of the UPOV Convention. Although there are several other approaches to *sui generis* legislation, the trend seems to be that countries more or less follow UPOV in their implementation of the TRIPS Agreement.

The Convention for the Protection of New Varieties of Plants of the Union for the Protection of New Varieties of Plants (UPOV Convention) was adopted in Paris in 1961 to provide uniform and clearly defined principles for the protection of plant breeders' rights. It was revised in 1972, 1978 and 1991, whereby the 1991-version entered into force in 1998. The main difference between the latter and the earlier versions is that farmers are no longer entitled to freely exchange and sell seeds they harvest from varieties protected by the respective plant breeders' rights. In addition, breeders are required to obtain authorization from the rights holder for the commercial marketing of a new variety if it is essentially derived from, or similar to, a protected variety, whereas there was earlier an unrestricted 'breeder's exemption' to encourage further breeding. UPOV used to be an organization for OECD countries and it has only become relevant for developing countries through the TRIPS Agreement.¹² As of August 2004, 17 developing countries were members of UPOV, whereof 15 memberships were based on the 1978 Act, and 2 on the 1991 Act.¹³

The different agreements developed out of different rationales. The IU and the ITPGRFA emerged from the FAO, based on a rationale pertaining to agricultural production. The CBD emerged from an initiative by the World Conservation Union (IUCN), was negotiated under the auspices of the United Nations Environment Program (UNEP), and was based on an environmental rationale. Both regimes are however embedded in the

¹¹ The abbreviation is derived from the French name of the organization, Union internationale pour la protection des obtentions végétales.

¹² Only South Africa became a member of UPOV before the adoption of the TRIPS Agreement. It became a member during the Apartheid rule, in 1977.

¹³ Since the 1978 Act of UPOV has been closed for signatures, new members will have to adhere to the 1991 Act. Therefore, if developing countries should join UPOV, they would have to accept the conditions in the 1991 Act. Countries being members of UPOV 1978 may apply for membership in UPOV 1991, provided that they fulfil the conditions for such a membership. The general trend is in this direction.

structures of the United Nations. The TRIPS Agreement as well as the UPOV Convention emerged from other angles¹⁴, but with the joint rational of creating private incentive structures to promote economic development. As this brief introduction shows, the international regimes all pertain to the management of PGRFA in different ways, which is illustrated in Table 1 below.

Table 1: What the international regimes are about (emphasis)

	Conservation, access and benefit sharing	Intellectual property rights
Biological diversity in general (including PGRFA)	CBD	Article 27.3(b) of the TRIPS Agreement
Plant genetic resources for food and agriculture	IU/ITPGRFA	UPOV

3. A brief introduction to the issue area

In order to analyze the effects of international agreements and their interaction on the management of PGRFA in developing countries, it was necessary to distinguish between sub-issues of PGRFA management. Based on the most comprehensive account of the state of PGRFA from the United Nations Food and Agriculture Organization (FAO, 1998), the following list of sub-issues was developed:

1. *In situ* management of PGRFA, referring to the level of plant genetic diversity grown in the fields, the share of agricultural land used for crops, which are not genetically uniform, and the share of farmers engaged in the management of PGRFA.
2. *Ex situ* conservation of PGRFA, referring to the number of accessions conserved in gene banks, the share of plant varieties conserved as compared to the total of varieties still available *in situ*, and the capacity of the gene bank facilities for adequate storage.
3. Access to PGRFA, referring to the legal and administrative procedures for getting access to plant genetic resources, and whether access is facilitated easily or not, e.g. indicated by the number of applications and approvals.
4. Utilization of PGRFA, referring to the actual use of plant genetic resources for breeding and agriculture, particularly with a view to the broadening of the genetic base of crops and the promotion of underutilized plants for food and agriculture.
5. Benefit sharing related to the utilization of PGRFA, referring to the actual sharing of benefits derived from the use of PGRFA between users and legal providers. Benefits may be monetary as well as in form of technology transfer or providing access to new varieties of plants.
6. Farmers' rights to PGRFA, referring to the possibilities of farmers to freely save, use, breed, exchange and sell their seeds and seedlings, as well as participate in political decision-making pertaining to the management of these resources.

¹⁴ UPOV was at its inception an alone standing regime, but was later linked to the World Intellectual Property Organization, which is a specialized agency of the United Nations.

A contentious topic pertaining to PGRFA is intellectual property rights, such as patents and plant breeders' rights over plant varieties. The topic is not explicitly included in the list for two reasons. First, the list contains elements necessary to provide for sustained management of PGRFA, and intellectual property rights is not required for this purpose, but rather an influencing factor. This leads us to the second reason, that intellectual property rights affect several of the listed topics, and should therefore be analyzed within these contexts. For example, intellectual property rights directly affect access to PGRFA, as will be further discussed below, and the scope for farmers' rights. We will also see that they indirectly affect the scope for benefit sharing as well as utilization of crops.

In this paper I will focus on aggregate effects pertaining to one of these issues, the issue of *access* to PGRFA. This example illustrates how the aggregate effects of international regimes can turn out to be detrimental to all of the regimes, and it is a case in point to show how decisive it is to understand interaction between regimes. Furthermore, I will use the issue of *intellectual property rights*, as a core influencing factor for the management of PGRFA, to illustrate the analyses of the time dimension and of 'forum shopping'.

4. Aggregate regime effects and detrimental achievements

The analysis of the aggregate effects of international regimes pertaining to the management of PGRFA followed three main steps:

- An analysis of the regime formation and the interaction between the regimes pertaining to the management of PGRFA
- A comparative analysis of the texts of the respective agreements and core documents pertaining to their implementation, interpreted in the light of their regime formation, with a view to the overlap of functional scopes and the compatibility of norms and rules (aggregate negotiation output)
- Case studies on the response of one developing country, the Philippines, to the international regimes and an assessment of the general relevance of these findings for other countries, including the conditions under which they are considered to be relevant. In addition a brief review of relevant legislation in other countries is undertaken to strengthen the findings.

In this paper, the core findings from each of these steps pertaining to access to PGRFA will be highlighted.

4.1 Regime formation and interaction pertaining to access to PGRFA

When the FAO International Undertaking was adopted in 1983, the United States opposed it because the developing countries were demanding that all types of genetic resources should be seen as a common heritage of mankind, freely accessible for everyone (Fowler, 1994: 188). There was an obvious clash with the intellectual property rights regime under development in the United States. A range of OECD countries were generally skeptical to an international agreement, since they feared the politicization of the issue (ibid.: 186). However, nine years later, the positions were totally reversed due to

the emerging intellectual property rights regime being negotiated as part of the Uruguay round leading up to the WTO with the TRIPS Agreement. In the parallel CBD negotiations, developing countries advocated the sovereign rights of States over their genetic resources and the sharing of benefit resulting from the use of these resources in an attempt to counterbalance the TRIPS process.¹⁵ The United States argued against the regulation of access to genetic resources under the CBD (Rosendal 2000: 92). At the same time they were in the forefront establishing the TRIPS regime, which restricted access to PGRFA from another angle.¹⁶ This tension spurred the demand from developing countries for regulation of access to *inter alia* PGRFA to ensure benefit sharing.

With the CBD, an international regime was created which *inter alia* provided for such a regulation of access and benefit sharing. This victory for the South (Rosendal, 2000) was achieved with a minimum of negotiations, in an effort to have the text ready for signatures at the Rio Conference (McGraw 2002). As such, it represents a 'snapshot' of the state of the negotiations at the time of Rio (Swanson, 1999: 309), and the further formation of the CBD has been a continuous process along with its implementation ever since. What could not be sufficiently sorted out in the short negotiation time, were the regulation of PGRFA under the CBD, and the relation to the FAO.

This deficiency should prove to seriously affect the regulation of access to PGRFA (Andersen 2003). There is a basic difference between domesticated and undomesticated plant genetic resources: Whereas domesticated plant genetic resources are dependent on human intervention to maintain and develop the properties necessary for utilization in agriculture, undomesticated resources normally thrive best in the absence of human intervention. Access to genetic resources is the precondition for the maintenance of domesticated resources, whereas it is largely irrelevant with regard to the conservation of undomesticated genetic resources. Since the CBD comprised all biological diversity, without paying attention to their different management needs, there had to be problems.

In the Nairobi Final Act of 1992, which was the document adopting the text of the CBD prior to its signing in Rio de Janeiro, outstanding issues pertaining to PGRFA were addressed and referred to the FAO for further negotiations. One of these issues was the question of access to gene bank collections acquired prior to the entry into force of the CBD. Both the FAO and the Conference of the Parties to the CBD called for a harmonization of the International Undertaking with the Convention. These were the points of departure for the long-lasting negotiations leading up to the adoption of the ITPGRFA in 2001.

While there were no problems in adopting the overall objectives of the CBD, the rationales behind the two agreements had different weighting. The International

¹⁵ Sovereign rights of countries over genetic resources had also been recorded in an agreed interpretation of the International Undertaking from 1991 (FAO Conference Resolution 3/91), in response to an earlier formulation (FAO Conference Resolution 4/89) accepting plant breeders rights to be in harmony with the Undertaking.

¹⁶ In addition, the UPOV Convention was amended to provide stronger intellectual property rights for plant varieties, a development, which should have implications for the later implementation of the TRIPS regime.

Undertaking was born out of a need for facilitating access to genetic resources, whereas the CBD emphasized the need for fair and equitable sharing of benefits arising out of the use of genetic resources, in addition to the necessity of conservation and sustainable use. However, the question of benefits is a different one in a PGRFA context, as the following figures show:

- An estimate comparing the commercial seed industry with the pharmaceutical sector showed huge differences with regard to the monetary potentials for benefit sharing (FAO, 1998: 290). The benefits to be returned to a source country of a plant-derived pharmaceutical product could under a bilateral agreement sometimes reach several million dollars. The benefits to be returned to source countries from the commercial exploitation of PGRFA through plant varieties would hardly cover the respective transaction costs. One reason for this is that a plant variety is normally derived from a huge number of parent varieties, with an even larger number of potential countries of origin, whereas pharmaceutical products are often derived from only one plant variety stemming from one country.¹⁷ The estimates indicated that there are few monetary benefits to expect from the commercial utilization of PGRFA under bilateral agreements.
- For developing countries, the most vital benefit so far has been access to PGRFA. Based on a range of studies, e.g. a survey of Palacios (1998), Fowler, Smale and Gaiji (2001) document that single developing countries in general receive more PGRFA than they provide.¹⁸ Therefore, as net receivers of PGRFA, all countries would benefit from the smoothest possible access to these vital resources.
- As long as no monetary or other benefits can be achieved except access to PGRFA, developing countries lose in double terms when they restrict access to PGRFA in order to provide for benefit sharing. They hinder each other in achieving access and do not get other benefits in return. The continued access to PGRFA is more vital to present and future food security than any other benefits.

Nevertheless, benefit-sharing arrangements would not be problematic, as long as they do not pose any substantial hurdles to access to PGRFA. This leads us to the second problem arising with the CBD: The way in which access facilitation was regulated. Following a bilateral approach, the country of origin of a genetic resource should be the one to control access and benefit sharing, subject to its legislation (Fowler, 2001 and Andersen 2001). For wild resources it is normally possible to identify more or less from where they originate, also when there is more than one country of origin. However,

¹⁷ Also, plant varieties are under continuous development, and the time period within which one variety may be sold, tends to be shorter than that of a successful medicine. In addition, commercial breeders often have well-stocked gene banks on their own, and for a range of crops they tend to be self-sufficient for decades ahead. (Kate and Laird, 1999: 137 - 142).

¹⁸ For example countries in Southern Africa are between 65 per cent and 100 per cent dependent on main food crops, since these crops originated outside the region. Most countries were more than 90 % dependent. Ethiopia, which is generally considered the richest in PGRFA in Africa, was estimated to be between 28 and 56 per cent dependent on PGRFA from other regions. These features are common in all regions of the Earth, and generally, developing countries are dependent on PGRFA originating in other regions in the South. Also industrialized countries are net receivers of PGRFA, even if they receive less due to their own well-filled gene banks.

domesticated resources have been developed gradually via exchanges between farmers and breeders over short and long distances for hundreds and thousands of years, in several cases even since the dawn of agriculture. Determining the countries of origin of these resources, in accordance with the definitions set out in the CBD, i.e. the countries where they have developed their distinctive properties, is in most cases virtually impossible.¹⁹ Therefore it would in most cases also be virtually impossible to identify the countries, which could be rightfully authorized to provide access to them. In addition, plant breeding normally requires access to a huge amount of plant varieties, often from different source countries, and the bureaucratic hurdles of application processes in each country would be substantial. The bilateral approach to access facilitation was not appropriate for the purpose of PGRFA.

As we can see, one sort of access restrictions, intellectual property rights, triggered another sort of access restrictions, the regulation of access to PGRFA for the purpose of fair and equitable benefit sharing. Such a development has been coined a weapon race (Rosendal, forthcoming), and the result in this case was the steady development towards stricter limitations on access to PGRFA.

These were some of the major reasons why the negotiations leading to the ITPGRFA lasted for seven years, during which genetic erosion continued unabated. As countries were awaiting the new agreement, little was done to implement the Undertaking at the national level. In this context it should be mentioned that there generally was little political attention given to the management of PGRFA, and the FAO International Undertaking. The effect was a lack of political pressure for the finalization of the negotiations as well as the use of the negotiations as a scapegoat for postponing action in this issue area. A policy vacuum emerged.

It was not easy to find solutions to the problems outlined above while at the same time keeping the negotiation text in harmony with the CBD. The principle of fair and equitable benefit sharing, which was central also under the negotiations leading to the ITPGRFA, required a fundamentally different operationalization approach than that of the CBD. The solution was a multilateral system for the facilitation of access and benefit sharing established under the new Treaty, covering 35 important crops and 29 forage plants in the public domain of the Parties to the ITPGRFA. It solved the problem of the bilateral approach to access and benefit sharing, but only with regard to the crops on the list. Although the seven years of negotiations were more or less lost with regard to the international regulation of the management of PGRFA²⁰, the fact that the negotiations

¹⁹ Gudrun Henne (1998: 144) argues that the principle of country of origin of genetic resources as the country with sovereignty over these resources introduces a new form of access regulation to natural resources in international law: Countries possessing genetic resources within their territory delegate this right to those that are countries of origin. This may cause problematic situations in cases where the country of origin and the source country are not identical, as is often the case (ibid: 142). For those genetic resources, which have an evident country of origin, and where the country of origin does not possess the genetic resource anymore, there is actually no legal entity with sovereign rights over that resource (Henne 1998, Wolfrum and Stoll, 1996).

²⁰ The greatest achievement during this time was the establishment of the *International Network of Ex Situ Collection under the Auspices of the FAO* (Andersen, 2003). Thereby gene bank collections of the

finally resulted in a treaty that was legally binding, was a positive effect of the interaction between the International Undertaking and the CBD.

Meanwhile the TRIPS Agreement had entered into effect for most developing countries in 2000, exerting pressure on them to adopt legislation on *inter alia* patents or effective *sui generis* systems to plant varieties. As many developing countries chose to follow the UPOV in implementing the TRIPS on this point, to ensure their legislation to be accepted by the TRIPS Council the development should prove to limit access to PGRFA from another angle.

Plant breeders' rights, as provided for by UPOV, do not stop farmers from using their traditional varieties, and usually did not stop them from using protected varieties in their traditional ways either. Protected varieties could be used as an input to strengthen and improve their own varieties, allowing parts of the harvest to be used for sowing, exchange and sometimes for sale, without paying royalties to the rights holders. However, the UPOV 1991 Act restricts the rights of farmers. Under UPOV 1991, governments may, as an optional rule, permit farmers to use protected varieties for propagating purposes on their own landholdings, but not to exchange or sell the seeds or harvest thereof. As the number of varieties protected by stricter plant breeder rights increases and the number of traditional varieties falls, the total number of varieties available²¹ for traditional use by farmers – over time – obviously declines, affecting their ability to maintain yields and resistance of their own crop varieties.

Another effect of the introduction of plant variety protection in a country is that it encourages the sale of improved varieties. In Brazil, for example, Monsanto increased its share of the maize seed market from zero to 60 percent between 1997 and 1999, following the introduction of legislation on plant breeders rights (Commission on Intellectual Property Rights, 2002: 65). Whereas the introduced varieties may have increased and improved production, at the same time they crowded out local varieties, contributing to further genetic erosion and subsequently to reduced availability of PGRFA.

4.2 Aggregate negotiation output pertaining the regulation of access to PGRFA

In essence, the *separate* negotiation output for the regimes pertaining to access to PGRFA can be summarized as follows:

- The IU provided, and the ITPGRFA provides for expeditious access to PGRFA. Since the entry into force of the ITPGRFA, access is to be facilitated through a Multilateral System for Access and Benefit Sharing pertaining to a list of crops and forage plants.

Consultative Group on International Agricultural Research (CGIAR) were placed under the auspices of the FAO, making them accessible for plant breeding and direct use as an interim arrangement until the entry into force of the ITPGRFA. However, countries from where material was received could interfere and demand control over access to the collections from their countries.

²¹ Fowler and Hodgkin (2004: 145) distinguish between 'access' and 'availability', where 'access' refers to the possibility to get permission or legal entitlements to obtain PGRFA, and 'availability' relates to whether the genetic resources exist in a usable form, can be identified and potentially obtained.

- Under the CBD access to biological diversity is a norm, and is to be facilitated by the countries of origin of the plants in question upon prior informed consent on mutually agreed terms with the recipients of the material.²²
- The TRIPS and the UPOV regulate access to PGRFA, which is patented or protected with plant breeders' rights, and do not provide for regulation of access to other plant material. The development of new varieties to be protected with intellectual property rights depends on the availability of and access to PGRFA.

The aggregate negotiation output with regard to access to PGRFA can be divided in three phases:

1983-1993: In this period, the International Undertaking was the only international agreement pertaining to the general regulation of access to PGRFA²³. It was not legally binding, but provided a normative basis for the facilitation of access to PGRFA across country borders. Towards the end of the period, however, this normative basis eroded due to agreed interpretations *inter alia* accepting intellectual property rights as provided for in the UPOV²⁴, and emphasizing the sovereign rights of states to control their genetic resources (FAO Conference resolutions 4/89 and 3/91)

1993-2004: The international regimes provided for restrictions on the access to PGRFA. Two forms of legal restrictions were introduced for national implementation: (1) acts and regulations governing access to genetic resources upon prior informed consent and on mutually agreed terms, and – towards the end of the period for developing countries – (2) intellectual property rights to plant genetic resources (plant breeders' rights and patents). Since the International Undertaking was non-binding and the countries tended to await the results of the negotiations towards the ITPGRFA for decisions concerning PGRFA, there was no counterbalance during this period.

2004- present: The ITPGRFA provides for the facilitated access to 35 food crops and 29 forage plants under the Multilateral System of Access and Benefit Sharing (Articles 10–13). These include important food crops such as rice, wheat, maize, rye, potatoes, beans, cassava and bananas, and which are listed in an annex to the Treaty and are frequently referred to as the Annex I crops. Other important crops, such as soybean, oil palm, cotton, sugarcane, cocoa, groundnut, most vegetables, including tomato, and important tropical forage plants are not included. The countries being Parties to the Treaty are obliged to facilitate access to all PGRFA within their public domain, which are listed in Annex I, to all legal and natural persons under the jurisdiction of any Contracting Party. With the

²² The Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of Benefits Arising out of their Utilization, which were adopted by the Conference of the Parties to the CBD in 2002, confirms this understanding and strengthens it: *Providers should only supply genetic resources and/or traditional knowledge when they are entitled to do so* (Decision VI/24, II/C/16/c/i). It is, however, explicitly stated that the guidelines are without prejudice to the access and benefit-sharing provisions of the ITPGRFA.

²³ The UPOV did not really affect access to PGRFA in this period, because important exceptions were made with regard to these intellectual property rights. Plant breeders were allowed to use protected varieties for breeding purposes, and farmers could use the harvest of a protected variety as they wished.

²⁴ Intellectual property rights was a highly contentious issue in the FAO, due to their fast expansion in the area of PGRFA since the 1970s.

entry into force of the ITPGRFA, the following legal situation has emerged pertaining to access to PGRFA:

Table 2: Legal situation with regard to the facilitation of access to PGRFA

ITPGRFA ↓	CBD ⇒	Accessions acquired <i>prior</i> to the entry into force of the CBD	Accessions acquired <i>after</i> the entry into force of the CBD
Crops <i>listed</i> under the Multilateral System of the International Treaty		1) Access is to be facilitated under the Multilateral System of the International Treaty.	2) Access is to be facilitated under the Multilateral System of the International Treaty.
Crops <i>not listed</i> under the Multilateral System of the International Treaty		3) If crops are not voluntarily included in the Multilateral System, access to them is not regulated by any international agreement.	4) If crops are not voluntarily included in the Multilateral System, access to them is regulated internationally by the CBD.

All crops listed in Annex 1 to the ITPGRFA in the public domain are accessible under the multilateral system, whether they were acquired prior to or after the entry into force of the CBD (boxes 1 and 2). If access is regulated under the CBD (box 4), those requesting such access will have to apply to national authorities, where such are established, in order to attain accessions of specified PGRFA. When they will attain access, and on what conditions, is dependent on the efficiency of the domestic procedures in the respective country and their approach to benefit sharing. If access is not regulated by any international body (box 3), the countries possessing these resources can decide whether to provide access or not. If access is denied or severely restricted, the effects for the further development and use of these resources, and their contribution to food and agriculture, may be severe. Countries may, however, voluntarily include PGRFA collections in the multilateral system.

4.3 Aggregate regime effects pertaining to the regulation of access in developing countries

While negotiations continued within the FAO – and the terms and conditions on which the ITPGRFA shall be implemented are still not sorted out – the CBD and the TRIPS have been implemented in a range of countries during the past ten to twelve years. This creates difficult conditions for the later implementation of the Treaty with regard to access facilitation. We will here focus on the aggregate regime effects pertaining to the regulation of access, as they have developed up to present. Thereby we will largely concentrate on the aggregate regime outcome in developing countries in terms of legislation.

Among developing countries, access- and benefit regulation has been or is in the process of being adopted in 43 countries (Kate and Laird, 1999: 16; GRAIN 2004):

Table 3: Developing countries with or in process of adapting, CBD related regulation of access

Asia	Africa	Latin America	Pacific region
Bangladesh India Indonesia Laos PDR Malaysia Pakistan Philippines Republic of Korea Thailand Turkey Vietnam Yemen	Cameroon Eritrea Ethiopia Gambia Ghana Kenya Lesotho Malawi Mozambique Namibia Nigeria Seychelles South Africa Tanzania Zimbabwe	Argentina Belize Bolivia Brazil Colombia Costa Rica Ecuador Guatemala Mexico Panama Peru Venezuela	Fiji Papua New Guinea Samoa Solomon Islands

Glowka (1998) suggests a categorization of the different access legislation in five groups:

- Environmental framework laws charging competent national authorities to provide more specific guidelines
- Sustainable development, nature conservation or biodiversity laws with more detailed provisions on access regulation, *inter alia* with regard to prior informed consent and mutually agreed terms
- 'Stand-alone' national laws or decrees on access to genetic resources with detailed regulation
- Modifications of existing laws and regulations, often related to national parks and forest management and mainly for the purpose of regulating access within these areas
- Regional measures such as the common access regime established by the Andean Community.

Of these groups, particularly the second, the third, and the fifth are relevant with regard to access to PGRFA. Kate and Laird (1999: 17-33 and 293-312), who have analyzed the first generation of access legislation, found them in many cases to be bureaucratic, overly restrictive and time-consuming. As for the Philippines, my case studies confirm this picture. The Philippines adopted Executive Order 247 on the regulation of bioprospecting in 1995, which provided for a detailed and comprehensive process of application and consideration. All people or legal entities, whether Philippine or foreign would have to go

through the process when seeking legal access to PGRFA. As of 2002, only two out of a total of 34 applications had been approved.²⁵

Intellectual property rights to PGRFA have been introduced or are in the development process in a number of developing countries, in their effort to comply with the TRIPS Agreement, as part of the WTO requirements, or due to conditions set in bilateral trade agreements with developed countries (so-called TRIPS-plus agreements). The following is a list of countries, which have developed such legislation or are in the process of doing so (based on GRAIN, 2004):

Table 4: Developing countries with or in process of adapting, intellectual property rights legislation pertaining to PGRFA

Asia	Africa	Latin America	Pacific region
Bangladesh Bhutan China India Iraq Jordan Oman Pakistan Philippines Republic of Korea Saudi Arabia Sri Lanka Taiwan Thailand Vietnam	Algeria Egypt Kenya Mauritius Morocco South Africa Zimbabwe	Belize Bolivia Brazil Chile Colombia Costa Rica Ecuador Nicaragua Panama Paraguay Peru Trinidad and Tobago Venezuela	

The decisive point with regard to access, is whether they allow for breeders and farmers' exemption from the rights of the rights holder, and more precisely how. Some acts and regulations follow, or are closer to, UPOV 1991, some are closer to UPOV 1978, and a range is somewhere in the middle, whereas a few seek to combine the legislation on plant breeders rights with regulation of farmers' rights to local plant varieties. In most cases, the legislation represents a departure from earlier access to commercial varieties, where these varieties had to be bought, but could thereafter be used as the farmer or breeder wished. The extent to which access is restricted differs from country to country. Most acts are still so young, that it is too early to assess their implementation. A particularly interesting act, is the Indian Plant Variety and Farmers' Rights Act, which is intended to distribute rights equitably between breeders and farmers. Ramanna and Smale (2004) highlight the potentials for an 'anticommons tragedy', i.e. that too many parties independently possess the right to exclude others from utilizing a resources. The results

²⁵ According to an internal document from the responsible entity, the Protected Areas and Wildlife Bureau of the Department of Environment and Natural Resources in the Philippines from 2000, with the title *Status of Executive Order 247 Implementation*. Confirmed by several interviewees.

could be that the Act would have negative consequences for the productivity and welfare of farming societies, due to a lack of access to PGRFA.

Generally, the international transfer of genetic resources has decreased considerably since 1992.²⁶ There are several reasons for this decline, of which legislation implementing the rules of the CBD on access to genetic resources and the fair and equitable sharing of the benefits arising out of their use is considered among the important ones (Kate and Laird, 1999: 32). The development of intellectual property rights has in turn spurred the development of access regulation.

In short, the access to PGRFA has increasingly been limited in developing countries due to legislation on access regulation as well as on intellectual property rights. This was not the intention with the IU/ITPGRFA or the CBD. It was also not desired by the driving forces behind the TRIPS and the UPOV. Nevertheless, it has been the aggregate effect of the four international regimes in developing countries so far, due to regime interaction.

5. The time dimension in international regime interaction

In order to identify potential aggregate effects of overlapping international regimes, it is vital to grasp the interaction between these regimes. A systematic analysis of regime interaction, taking the time dimension into account, uncovers changing constellations between the regimes with regard to synergies, barriers and strategic opportunities (Andersen 2002).

5.1 The time dimension: Three propositions on regime interaction

Time can not *per se* explain the interaction between different regimes. It is not the age of a regime that determines whether it will be in a position to influence another regime. For some regimes it takes a short time for an agreement to be adopted and implemented. For other regimes it takes many years. What counts in a time perspective is the development stages of regimes (agenda setting, regime formation, implementation and evaluation stages). The interesting question in this regard is how different development stages of regimes affect their interaction, and thereby their prospects for implementation. Three forms²⁷ of interaction can be envisaged, which may influence the aggregate regime effects:

P₁ Synergetic interaction: Normally a regime in an early stage of development will be influenced by regimes in later stages of development if their functional scopes are overlapping, and they are similar in terms of member states, interests, power and international political weight. This is a typical learning situation, where the diffusion of norms and ideas from one regime to another may result in one regime influencing

²⁶ See the database of the CGIAR System-wide Information Network for Genetic Resources (SINGER) at <http://www.singer.cgiar.org/SINGER/Overview/Distribution/User/user.htm>, and enter 'transfer' by 'user type and year'. See also Kate and Laird (1999: 312).

²⁷ A fourth form is not included: Interaction with neutral effects. The reason is that this form is considered less interesting in our context, and that no observations were made in this regard pertaining to 'our' regimes.

the material contents of another (Stokke, 2000 and 2001). Such a situation is also fruitful when it comes to implementation at the national level, since the domestic experiences with the more established regime is instrumental for the implementation of the new regime.

P₂ Interaction with barriers: In situations like the above, but where the different regimes comprise conflicting interests with regard to the overlapping issues, the established regimes will normally be in the position to determine the direction of the newcomer. Negotiating countries usually work for new regimes to be in compliance with agreements that have already been adopted pertaining to the same issue. By trying to rule out conflicts between the two regimes, the parties will seek to harmonize the regime at the earliest stage with the one at the later stage. Dependent on interests and power constellations, the negotiations of the newer regime can thus be difficult and time consuming. The effects at the national level will be that the established regime is further implemented, whereas the regime in the earlier stage of development is not ready for implementation. Structures are thereby shaped at the domestic level, which may hinder the later implementation of the latter.

P₃ Interaction with strategic opportunities: The conflict situation described above may also give rise to another type of development if conflicts are not ruled out, in that the regime under formation has the potential to modify the effects of the more established regime. The new regime may introduce rules that limit the scope for implementation of the more established regime. For example, it may provide rules that in effect make exemptions from the established regime for some particular situations, or provisions, which add to the provisions of the more established agreement, thereby limiting its functional scope. In addition, there is also the possibility of learning. If there is a certain period of time between the formation of the two regimes, and the international discussion has reached a certain consensus on overlapping topics of relevance in the meantime, the newer regime is in a position to induce a modernization of the more established one. This opportunity may be used in the implementation at the domestic levels by interpreting the regime constellation in favor of the new agreement, and shaping domestic policies thereafter. The potential to modify an established regime by way of a new regime is a strategic opportunity for countries supporting the new one.

In section 4.1 the history of interaction between the regimes pertaining to PGRFA was introduced. In the following, we will build on this introduction to investigate the relevance of the above propositions for our issue area. The following figure may help to recall the development stages of the different regimes:

Table 4: Development stages of regimes pertaining to the management of PGRFA

IU/ ITPGRFA	Agenda setting	Nego- tiation	Implementation phase for the IU										A ²⁸ /interim period ITPGRFA ²⁹
			A ³⁰ /Implementation				Agenda setting		Negotiations on revision of the IU				
Timeline	79-80	81-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96	97-98	99-00	01-02	03-04
CBD		Agenda setting				Negotiations		A ³¹	Implementation phase for the CBD				
Timeline	73-80	81-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96	97-98	99-00	01-02	03-04
TRIPS³² (27.3.b)	Agenda setting				Negotiations			A ³³ + Interim period	Implementation phase for TRIPS				
								(Impl.)	Review/evaluation				

5.2 Synergetic interaction between the CBD and the IU/ITPGRFA

We have seen how the overall policy objectives of the CBD were set forth in the negotiations for the ITPGRFA. Whereas the negotiations had the IU as point of departure, a basically new and legally binding agreement was the result, which corresponded to the intentions behind the IU as well as the CBD. This illustrates how an early agreement may influence a later, when they have overlapping functional scopes, similar interest constellations in terms of adhering countries and similar intentions. Due to these constellations, such an interaction will normally be synergetic, with a strong learning component. In our case, the final *negotiation output* represents proof of the synergy between the two regimes: The negotiations for the ITPGRFA were initiated as a response to the CBD and the request by its negotiating parties, and the resulting Treaty was a fundamental improvement from the IU.

5.3 Interaction with barriers between the CBD and the IU/ITPGRFA

We have also seen how the CBD process, despite compatible intentions with the FAO regime, resulted in diverging rules on core issues, particularly on access to PGRFA, as elaborated in Chapter 4. Thereby it unintentionally complicated the efforts for international regulation of the management of PGRFA and spurred uncertainty with regard to the division of labor between the two regimes.³⁴ This contributed to the delay of

²⁸ Adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture

²⁹ The ITPGRFA entered into force 29 June 2004, and thereby also the implementing phase started.

³⁰ Adoption of the International Undertaking on Plant Genetic Resources

³¹ Adoption of the CBD and ratification period

³² The UPOV Convention is not included in this overview, because it is relevant for developing countries only as a potential implementing measure of the TRIPS Agreement. Our focus is thus on the TRIPS.

³³ Adoption of the TRIPS Agreement

³⁴ According to the Nairobi Final Act on the Adoption of the Agreed Text of the CBD adopted 22 May 1992, FAO was to solve the issue of access to gene bank accessions of PGRFA collected before the entry into force of the CBD, whereas the CBD regulated access to accessions collected thereafter. It also referred the negotiation of farmers' rights to the FAO, whereas the CBD regulated access to PGRFA grown in the fields, *in situ*. However, varieties can exist in gene bank collections older than 1993 and still be grown in the fields. There can also be different accessions of the same variety in different gene banks, collected

the ITPGRFA, and illustrates the way in which an early regime might hinder a later one despite similar interest constellations both in terms of adhering countries and intentions, when the rationales and motivation behind the two regimes have different origins. The *negotiation process* can therefore be characterized as one with barriers. The resulting management vacuum during the 12-year period up to the entering into force of the ITPGRFA was not conducive to the objectives of either of the two agreements. The erosion of PGRFA could continue in the absence of sufficient international regulation. The lesson is that general interest constellations of states are not enough to ensure synergies. It is important to also account for historic origins of and the basic rationales behind the regimes, as well as the different actor constellations representing the states in different negotiations.³⁵

5.4 Interaction with strategic opportunities: The ITPGRFA and the TRIPS

Finally, we have seen how the norms and rules of the TRIPS Agreement have complicated the negotiations for the CBD as well as the ITPGRFA, and affected the management of PGRFA in developing countries in ways that are not in line with the core norms of the two latter regimes. We can also observe that these two regimes pose significant obstacles to the further progress of the TRIPS Agreement in terms of Article 27.3.b.³⁶ As point of departure, this constellation represented barriers between the regimes, at least up to 2004. In adopting diverging provisions as the later regime, the ITPGRFA has, however shown the potential to modify the outcome of the TRIPS agreement in terms of domestic implementation. This illustrates how a regime under formation may develop potentials to modify the effects of a more established one. Let us have a closer look at this phenomenon:

The overall policy objectives and principles of the TRIPS agreement pertaining to PGRFA differ from those of the CBD and the ITPGRFA in that they pertain to the issue of intellectual property rights exclusively. The crucial question is whether the norms and rules of the three regimes on this issue are compatible or not. Whereas intellectual property rights have been a hot topic in the negotiations all along, there is no obvious answer to this question. The conflict issue, as it has emerged during negotiations, is whether intellectual property rights are compatible with open access to PGRFA and the fair and equitable sharing of benefits arising from their utilization.

The degree to which patents or other intellectual property rights exclude plant varieties from open access is decisive to the consideration of whether they conflict with the overall

before and after 1993. Farmers' rights pertain to the PGRFA growing in their field. In all these cases, it was unclear whether the CBD or the FAO would apply in terms of international regulation (Andersen, 2002).

³⁵ It is well known that most countries sent different delegations to the negotiations for the CBD and the ITPGRFA, and countries sought for co-ordination only in few cases. The delegations for the ITPGRFA were typically led by representatives from the ministries of agriculture, whereas the delegations for the CBD were headed by representatives from the ministries of environment. As for the TRIPS negotiations, normally the ministries of trade or foreign affairs are in charge.

³⁶ A range of topics and proposals has been submitted to the TRIPS Council from different WTO members, *inter alia* suggesting how Article 27.3.b of the TRIPS Agreement can be revised or implemented in better harmony with the CBD. See for example WTO, Council for Trade-Related Aspects of Intellectual Property Rights (2002): *Review of the provisions of Article 27.3(b) - summary of issues raised and points made*. Note by the Secretariat (IP/C/W/369).

objectives of the CBD and its provisions pertaining to access. Due to the vague formulations of Article 27.3(b) and a delayed review process in this regard, it is not yet certain what regulations the TRIPS Council will accept, and thereby what the standards will be. If, for example, the WTO as a result of its review process rejects *sui generis* systems, which enable farmers and breeders open access to the harvest of a protected crop, there is a conflict. We may thus conclude that the TRIPs agreement has the potential to seriously conflict with the CBD. As shown in chapter 4 however, the development has already in reality developed quite far in favor of *sui generis* systems, which restrict access to PGRFA.

Whether patents or other intellectual property rights are compatible with the provisions in the CBD on the fair and equitable sharing of benefits arising out of the use of PGRFA, is a more complicated and a highly contentious question. The core of this question is whether there should be a requirement to disclose source country/ies of genetic resources and/or document prior informed consent on benefit sharing to obtain a certificate on an intellectual property right. There is no provision in the CBD explicitly formulating such a procedure. Therefore, according to international regulation, the 'burden of proof rests with the offended party'.

These are the situations to which the negotiators of the ITPGRFA responded, when they established the Multilateral System of Access and Benefit-Sharing (see section 4.1). This system shall enable expeditious access to the 'Annex 1' crops for all parties to the Treaty upon *inter alia* one central condition. The recipients of such genetic resources *shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture or their genetic parts or components, in the form received from the Multilateral System* (Article 12, Section 3.d). The latter formulation, "in the form received from the Multilateral System," leaves quite a scope for interpretations. However, the language is quite clear in terms of the intention, namely to restrict the admission of intellectual property rights, and as such, it is in conflict with the intentions of the TRIPS agreement.

In addition, the ITPGRFA lays out that recipients who commercialize products that incorporate material from the Multilateral System, shall pay an equitable share of the benefits arising from the commercialization of products, except if they are available without restrictions to others for further research and breeding (Article 13.2.d.ii). The monetary benefits arising from the use of PGRFA³⁷ that are shared under the Multilateral System should flow via a financial mechanism set up under the ITPGRFA to farmers in all countries, especially in developing countries, and countries with economies in transition, who conserve and sustainably utilize PGRFA (Article 13.3). A Governing Body was set up to *inter alia* distribute these resources (Article 19).

What these provisions have in common is that they may modify the outcome of the implementation of the TRIPS agreement. The Parties to the ITPGRFA will have to ensure

³⁷ The ITPGRFA emphasizes that facilitated access to PGRFA under the Multilateral System is in itself a major benefit. Other benefits beside the monetary ones are the exchange of information, access to and transfer of technology and capacity-building (Article 13).

that their legislation on intellectual property rights (if they have such) is compatible with the provisions of the Multilateral System for the crops listed in Annex 1. Furthermore, as the *sui generis* term in Article 27.3(b) of the TRIPS Agreement is not defined, the provisions of the ITPGRFA could serve as a vehicle for interpretation and subsequently for attempts at a *sui generis* protection of PGRFA that do not restrict access to such resources. On this basis, the ITPGRFA can have a strategic value for its Parties that are members of the WTO, which virtually all Parties are, and which seek for solutions to the access problem.

5.5 The relevance of understanding the time dimension in regime interaction

The surprising aspect with regard to these constellations is that this strategic opportunity has received so little attention and recognition by the actors involved in the PGRFA debate. Although the TRIPs negotiations receive by far more international attention than the ITPGRFA, the latter seems to have the greater potential to change the global situation for PGRFA management under the current conditions. Whether this opportunity will be used, depends on public attention and political will.

By including the time dimension in the study of interaction between overlapping international regimes, we have seen that perspectives are opened up, which may provide a better grasp of the dynamics of regime development. An analytic grasp of the time dimension might uncover barriers to regime formation and potentials for synergies, as well as strategic opportunities.

6. Forum shopping as a strategy of influence

Behind all these dynamics of regime interaction and time dimension there are actors with interests and ideas and different levels of bargaining power. In the study of regime interaction, it is particularly important to grasp how these actors use international regimes for their purposes, as the title of this panel indicate. Forum shopping has emerged as an interesting concept in this regard, and has proved to have high relevance with regard to regime interaction pertaining to the management of PGRFA. In our context, forum shopping refers to two inter-linked phenomena:

- The way in which different countries and actors choose different international forums pertaining to similar issue areas as their main arena for negotiations, according to their interests and considered bargaining power.
- The tendency of actors with sufficient bargaining power to move issues from one forum to another, dependent on where they consider having the greatest advantages.

The phenomenon has been investigated in different issue areas of international politics and law and has proved explanatory power (e.g. Giellespie, 2002; Kellow and Zito, 2002; Rothwell, 2004).³⁸

³⁸ Helfer (2004) coins the phenomena *regime shifting*. Whereas his analysis is highly interesting, I suggest that the term *regime shifting* is not precise, since it is not the regimes that are shifting, but the actors that

6.1 Forum shopping in the context of regime interaction pertaining to PGRFA

In our context, the historical picture has been characterized by two main fronts, with some bridge builders and issue-specific fractions in between. On one side, there were a few powerful industrialized countries, such as the United States, Japan, Australia and Canada, seeking access to genetic resources and at the same time working for the strongest possible protection of intellectual property rights to PGRFA to protect and further breeding innovation. On the other side, there was a large majority of developing countries, originally fighting for PGRFA as a common heritage of mankind, accessible to all, and to which no intellectual property rights should be possible. Intellectual property rights to PGRFA were seen as a new form of imperialism to which breeders in developing countries would have little or no access, exploiting the genetic resources from the South for profit, without giving anything in return. When the developing countries lost fronts in the battle against intellectual property rights towards the end of the 1980s and increasingly in the beginning of the 1990s, the demand for fair and equitable sharing of the benefits from the use of genetic resources arose as a response. Developing countries demanded that accessibility should be made dependent on benefit sharing arrangements, and in practice left the common heritage of mankind principle. Some small, industrialized countries, including the Nordic countries, acted as bridge builders between the North and the South. Between the two opinion poles there were other groups of countries. The positions of the European Union went in the same direction as the United States, Japan, Australia and Canada, but were often more modified. A few medium income developing countries had different opinions on particular sub-issues compared to the rest of the developing countries.

The broad picture was nevertheless one of controversies between the North and the South. It follows from these constellations that the powerful industrialized countries chose the TRIPS negotiations as their main arena and won the best achievements there, whereas the developing countries focused their main efforts on the CBD and won the best achievements there (Rosendal 2000). Their choices were dependent on their interests, as outlined above, combined with their considered basic game power as well as their negotiation power,³⁹ which has been thoroughly analysed by Rosendal (ibid).

Whereas the negotiations leading to the CBD and the TRIPS went more or less parallel, the negotiations leading to the ITPGRFA followed afterwards. The latter were highly politicized, but on the other hand, there are several indications that this negotiation process was not given the same emphasis as the foregoing. Negotiations on the implementation of the CBD and the TRIPS continued unabated in those forums, and were given higher priority in terms of financial resources and representation than those at the FAO. This combination of high politicization but low priority is a part of the explanation for why it took seven difficult years to negotiate the ITPGRFA, and this chapter indicates that forum shopping represents one of the explanatory factors.

move their emphasis from regime to regime. Therefore the term *forum shopping* seems more adequate to describe the phenomenon.

³⁹ Basic game power refers to the parties' control over the resources in question as well as their economic and technological capacity to make use of these resources, whereas negotiation power refers to capabilities based on strength in numbers, coalition and leadership (Underdal, 1997: 17).

An emerging aspect of forum shopping is the present development under the World Intellectual Property Organization, where a draft patent law treaty is under negotiation. Once adopted and in force, this treaty will comprise central aspects of TRIPS, and most likely introduce a considerably stricter regime on intellectual property rights over PGRFA. Since little progress has been made on Article 27.3(b) in the WTO due to protests from developing countries, proponents of stricter intellectual property rights, most of which are developed countries, this way increase their engagement in a further forum to advance their interests.

6.2 Forum shopping in a time perspective: A strategy for influence

The title of this panel asks *(w)hat can international regimes do for me?* With this paper, I have sought to pinpoint that international regimes can do a lot for actors who are aware of:

- The dynamics of regime interaction for the aggregate effects of these regimes
- The strategic opportunities emerging from time dimension of regime interaction
- The ways in which central actors select regimes as forums for influence

After the adoption of the CBD it became increasingly clear for the negotiators at FAO as well as in the Conference of the Parties to the CBD that there were certain problems in applying the CBD for the management of PGRFA. First when the negotiators of the ITPGRFA managed to develop other rules, which were adapted to the management needs for PGRFA while maintaining the norms of the CBD, could a fruitful approach to this issue area be found. This strategy shows that it was necessary to create a clear distinction between PGRFA and other biological diversity to deal with the negative effects of regime interaction pertaining to this issue area. Actors who seek to influence international regimes need to keep all the agreements pertaining to an issue area in their awareness, in order to work for aggregate effects that are in line with their intentions.

While keeping up awareness on potential aggregate effects of the regimes, it is important to identify the strategic opportunities at hand. These opportunities may arise out of the time dimension of regime interaction as well as of forum shopping. So far, actors seeking to oppose intellectual property rights to *inter alia* PGRFA have tended to oversee the negotiations leading to the ITPGRFA, while focusing most of their attention on the TRIPS negotiations. They thereby oversee two things: (1) The strategic opportunity provided with the rules on intellectual property rights under the ITPGRFA and (2) the fact that the advocates for intellectual property rights are in the process of moving their attention towards the World Intellectual Property Organization. The advocates of intellectual property rights, on the other hand, seem to be the ones that most effectively make use of forum shopping to advance their interests. The opponents of intellectual property rights seem rather to follow in the steps of the advocates in terms of forum shopping, and are reactive rather than pro-active. To make use of their opportunities, stakeholders in the international regulation of PGRFA would need to identify their strategic opportunities with regard to the time dimension as well as forum shopping.

7. Uses of global governance

With this paper I have sought to highlight potentials in global governance that do not seem sufficiently utilized in current regime developments:

Addressing aggregate effects of regimes more systematically could help avoid interaction with negative effects as shown in this paper. For example, when a new and legally binding regime on access and benefit sharing is now under negotiation among the Parties to the CBD, it is particularly important to be aware of the recent developments under the ITPGRFA. This could seem evident, but history shows that there has been little substantial contact between the two regimes so far. Furthermore, stakeholders may increase their chances to win through with interests or ideas, if they systematically analyze their strategic opportunities in regime interaction, as they arise out of the time dimension as well as out of the processes of 'forum shopping'.

There is more to this picture than I have managed to distill on these pages. For example, it is useful to be aware of the different mechanisms of influence at work in international regimes. Some of these mechanisms are interest and power based, other are based on learning and norm diffusion, and there is the dimension of institutional capacity, which is core to any analysis of the effects of international regimes in any country. It is interesting to study the links between such mechanisms of influence and different forms of regime constellations arising out of the time dimension described above. Likewise, it is interesting to study how the mechanisms of influence can be used in a forum shopping perspective. A systematic grasp of these interrelations provides insight in the strength of the mechanisms of influence, and also in conditions for their strengthening.⁴⁰ Such an approach may enable stakeholders to make better use of the global governance provided by international regimes.

References

Andersen, Regine (2003): 'FAO and the management of Plant Genetic Resources', in Stokke, Olav Schram and Øystein B. Thommessen (eds.): *Yearbook of International Cooperation on Environment and Development 2003/2004* (London: Earthscan), pp. 43–53

Andersen, Regine (2002): 'The Time Dimension in International Regime Interplay', *Global Environmental Politics* 2:3, pp. 98–117.

Andersen, Regine (2001): *Conceptualising the Convention on Biological Diversity: Why is it Difficult to Determine the "Country of Origin" for Agricultural Plant Varieties?* FNI-Report 7/2001. Lysaker: The Fridtjof Nansen Institute.

⁴⁰ These perspectives are dealt with in my forthcoming doctoral dissertation.

Brush, Stephen B. (ed.) (2000), *Genes in the Field. On-Farm Conservation of Crop Diversity* (Rome: International Plant Genetic Resources Institute, Ottawa, International Development Research Centre, and Boca Raton, FL/USA, Lewis Publishers)

Commission on Intellectual Property Rights (CIPR) (2002): *Integrating Intellectual Property Rights and Development Policy* (London: CIPR)

FAO (1998): *State of the World's Plant Genetic Resources for Food and Agriculture* (Rome: Food and Agriculture Organization of the United Nations).

Fowler, Cary and Toby Hodgkin (2004): 'Plant Genetic Resources for Food and Agriculture: Assessing Global Availability', *Annual Review of Environmental Resources*, No. 29, pp. 143–179

Fowler, Cary, Melinda Smale, and Samy Gaiji (2001): 'Unequal Exchange? Recent Transfers of Agricultural Resources and their Implications for Developing Countries', *Development Policy Review* 19 (2): 181–204.

Fowler, Cary (2001), 'Protecting Farmer Innovation: The Convention on Biological Diversity and the Question of Origin', *Jurimetrics*, 41: 4, 477–488

Fowler, Cary (1994). *Unnatural Selection. Technology, Politics, and Plant Evolution* (Yverdon, Switzerland: Gordon and Breach)

Giellespie, Alexander (2002): 'Forum Shopping in International Environmental Law: The IWC, CITES and the Management of Cetaceans', *Ocean Development and International Law*, No. 33, pp. 17–56

Glowka, Lyle (1998): *A Guide to Undertaking Biodiversity Legal and Institutional Profiles*, Environmental Policy and Law Paper no 25, (Bonn: IUCN Environmental Law Center)

GRAIN (2004): Biodiversity Rights Legislation (<http://www.grain.org/brl/>), (Los Baños, Philippines)

Helfer, Laurence R. (2004): 'Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking', *The Yale Journal of International Law*, Vol. 29, No. 1, pp. 1–83.

Henne, Gudrun (1998): *Genetische Vielfalt als Ressource. Die Regelung ihrer Nutzung* (Baden-Baden: Nomos Verlagsgesellschaft)

Kate, Kerry ten, and Sarah A. Laird (1999): *The Commercial Use of Biodiversity: Access to Genetic Resources and Benefit-Sharing* (London: Earthscan Publications Ltd)

Kellow, A. and A. R. Zito (2002): 'Steering through complexity: EU environmental regulation in the international context', *Political Studies* 50 (1), pp. 43–50

McGraw, Désirée M. (2002): The Story of the Biodiversity Convention: From Negotiation to Implementation, in Le Prestre, Philippe G. (ed.): *Governing Global Biodiversity. The Evolution and implementation of the Convention on Biological Diversity* (Aldershot, England and Burlington, USA: Ashgate)

Palacios, X. F. (1998): *Contributions to the Estimation of Countries' Interdependence in the Area of Plant Genetic Resources* (Rome: FAO/CGRFA)

Ramanna, Anitha and Melinda Smale (2004): 'Rights and Access to Plant Genetic Resources under India's New Law', *Development Policy Review*, Vol. 22, No. 4, pp. 423–442

Rosendal, G. Kristin (forthcoming, 2005): 'The Convention on Biological Diversity: Tensions with the WTO TRIPS Agreement Over Access to Genetic Resources and the Sharing of Benefits', in: Oberthuer, Sebastian and Thomas Gehring: *Institutional Interaction: Enhancing Cooperation and Preventing Conflicts Between International and European Environmental Institutions* (Cambridge: MIT Press).

Rosendal, G. Kristin (2000): *The Convention on Biological Diversity and Developing Countries* (Dordrecht: Kluwer Academic Publishers)

Rothwell, Donald R. (2004): 'Building on the Strengths and Addressing the Challenges: The Role of Law and the Sea Institutions', *Ocean Development and International Law*, Vol. 35, No. 2, pp. 131–156

Sprinz, Detlef F., Jon Hovi, Arild Underdal and Ronald B. Mitchell: *Separating and Aggregating Regime Effects*, paper presented at the 45th Annual ISA Convention 17-20 March 2004 in Montreal.

Stokke, Olav Schram (2000): 'Managing Straddling Stocks: The Interplay of Global and Regional Regimes', *Ocean and Coastal Management*, 43: 205–234.

Stokke, Olav Schram (2001): *The Interplay of International Regimes: Putting Effectiveness Theory to Work*, FNI Report 14/2001 (Lysaker: The Fridtjof Nansen Institute)

Swanson, Timothy (1999): 'Why is There a Biodiversity Convention? The International Interest in Centralized Development Planning', *International Affairs*, Vol. 75, No. 2, pp. 307–331.

Underdal, Arild (1997): *Modelling the International Climate Change Negotiations: A Non-Technical Outline of Model Architecture*, CICERO Working Papers 1997:8 (Oslo: CICERO)

Wolfrum, Rüdiger and Peter-Tobias Stoll (1996): *Der Zugang zu genetischen Ressourcen nach dem Übereinkommen über die biologische Vielfalt und dem deutschen Recht*. Forschungsvorhaben des Umweltbundesamt Nr. 101 01 002, Endbericht (Heidelberg: Umweltbundesamt)

Young, Oran R. 1996. Institutional Linkages in International Society: Polar Perspectives. *Global Governance* 2 (1): 1–24.