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TOWARDS A FAIR AND EQUITABLE ABS REGIME:  
IS NAGOYA LEADING US IN THE RIGHT DIRECTION?

Bram De Jonge

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## ARTICLE

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# 1

## INTRODUCTION

Mechanisms to regulate the transfer, management and distribution of natural resources found on, under or above the surface of the earth have long been a source of discussion. Plant genetic resources are no exception, and for some decades now, the international community has been searching not only for ways to conserve these resources, but also to share, in a fair and equitable way, the benefits deriving from their use. By looking briefly into the history of these debates, and discussing the central concepts that have steered the discussions on how these resources should best be managed, this article will analyse the strengths and weaknesses of the existing international agreements in terms of their ability to create a fair and equitable regime of Access and Benefit Sharing (ABS).

Although none of these international agreements define the terms 'fair' and 'equitable', they do point to some principles of justice that may guide the sharing of benefits derived from the utilisation of genetic resources. This article will analyse these principles and show that the main model of ABS, as adopted by the Convention on Biological Diversity, can never lead to a fair and equitable outcome. This article therefore proposes an alternative ABS regime – the utilisation model – on the basis of the principles of justice it identifies. Eventually, this hypothetical model will be compared with the latest internationally agreed text on ABS – the Nagoya Protocol – in order to determine whether this protocol is leading us towards a fair and equitable ABS regime.

# 2

## THE ORIGIN OF ABS IN INTERNATIONAL LAW

The origin of the concept of access and benefit sharing – the idea that the benefits derived from the utilisation of a particular resource to which one has

access should be shared with others – in international law may be found in the 1970s. At that time, benefit sharing was closely related to the concept of the common heritage of humankind. For example, both concepts appeared in the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies,<sup>1</sup> and during the negotiations towards the United Nations Convention on the Law of the Sea.<sup>2</sup> In the former it was declared that the 'Moon and its natural resources are the common heritage of mankind' and it subsequently established a provision on the 'equitable sharing by all States Parties in the benefits derived from those resources' discovered on the moon.<sup>3</sup> In the latter, it is stated that 'the area of the sea-bed (...) as well as its resources, are the common heritage of mankind, the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole'.<sup>4</sup>

With respect to plant genetic resources, the concept of benefit sharing appeared for the first time in the International Undertaking on Plant Genetic Resources (IUPGR) of the United Nations Food and Agriculture Organisation (FAO).<sup>5</sup> In its first Article, the document outlines that the 'Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be available without restriction'.<sup>6</sup> Through its resolutions in 1989,<sup>7</sup> the FAO tried to achieve a balance between the interests of farmers, especially those in developing countries, as the historic, present, and future stewards and innovators of plant genetic resources on the one hand, and formal innovators as plant breeders and the biotechnology industry on the other by

1 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, New York, 5 December 1979, 1363 UNTS 3 / 18 ILM 1434 (1979).

2 United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, 1833 UNTS 3 / 21 ILM 1261 (1982).

3 Moon Treaty, note 1 above, Articles 11.1 & 11.7(d).

4 UNCLOS, note 2 above, preamble.

5 International Undertaking on Plant Genetic Resources, Rome, 23 November 1983, *in* Report of the Conference of FAO Twenty-second Session, Resolution 8/83.

6 *Id.*, Article 1.

7 Resolution 4/89 'Agreed Interpretation of the International Undertaking' and Resolution 5/89 'Farmers' Rights' (paragraph 108), Rome, 29 November 1989, *in* Report of the Conference of FAO Twenty-fifth Session.

establishing the so-called farmers' rights in order to, 'allow farmers (...) to participate fully in the benefits derived (...) from the improved use of plant genetic resources, through plant breeding and other scientific methods'.<sup>8</sup>

The concept of access and benefit sharing came more and more to the foreground. It was not, however, until the adoption of the Convention on Biological Diversity (CBD)<sup>9</sup> in 1992 that ABS became operative at both international and national levels. The CBD emphasises that 'States have sovereign rights over their own biological resources'.<sup>10</sup> It declares, furthermore, that access to genetic resources should be subject to 'sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilisation of genetic resources with the Contracting Party providing such resources'.<sup>11</sup> With respect to traditional knowledge, the CBD states that each country, subject to its national legislation, shall 'promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices'.<sup>12</sup>

Almost a decade later, the discussions surrounding the IUPGR of the FAO culminated in the adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR) in 2001. This treaty, while in harmony with the CBD,<sup>13</sup> creates an alternative ABS regime for the agricultural sector in order to facilitate access to, and the international transfer of, those plant genetic resources that are 'the raw material indispensable for crop genetic improvement' and thus global food security.<sup>14</sup> As one of its central benchmarks it states that:

In the exercise of their sovereign rights over their plant genetic resources for food and agriculture, states may mutually benefit from the creation of an effective multilateral system for facilitated access to a negotiated selection of these resources and for the fair and equitable sharing of the benefits arising from their use.<sup>15</sup>

As such, the ITPGR establishes a list of 64 major crops and forages that are freely accessible for breeders and researchers of member countries. Furthermore, the ITPGR includes an international fund for which payment is due when a commercial product is developed using resources from the Multilateral System of Access and Benefit-Sharing (Multilateral System).<sup>16</sup> The fund is then linked to the benefit sharing provisions that aim to facilitate 'the exchange of information, access to and transfer of technology, capacity-building, and the sharing of the benefits arising from commercialisation', in particular to help small farmers in developing countries.<sup>17</sup>

### 3

## SOVEREIGN OWNERSHIP VERSUS COMMON HERITAGE

The question whether plant genetic resources (for food and agriculture) fall under the sovereign rights of states, or instead should be considered a common heritage of mankind, appears as a central issue in the history of ABS. Through the CBD, States can regulate access to their resources and negotiate the accompanying benefit sharing conditions. ABS is thus considered a compensation mechanism between the providers and the users of plant genetic resources.

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8 *Id.*, Resolution 5/89, final Article.

9 Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, 1760 UNTS 79; 31 ILM 818 (1992).

10 *Id.*, preamble.

11 *Id.*, Article 15 (7).

12 *Id.*, Article 8 (j).

13 International Treaty on Plant Genetic Resources for Food and Agriculture, Rome, 3 November 2001, in Report of the Conference of FAO Thirty-first Session, Resolution 3/2001, Article 1.1.

14 *Id.*, preamble.

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15 *Id.*

16 Payment is voluntary if the commercialised product can be used without restriction by others for further research and breeding, it is compulsory if not. See S. Bhatti, 'The International Treaty on Plant Genetic Resources', in P.F. Uhlir ed., *Designing the Microbial Research Commons: Proceedings of an International Symposium* 137 (Washington DC: The National Academies Press, 2011).

17 See ITPGR, note 13 above, Article 13.2.

Notably, this understanding of ABS was a reaction against the idea of 'common heritage' to which the concept of benefit sharing was formerly linked. In the years preceding the conclusion of the CBD, the gene-rich developing countries had become increasingly dissatisfied with the free and uncompensated use of their biological diversity. With the rise of the new biotechnology industry and accompanying intellectual property regulations, genetic resources became more and more valuable but their benefits accrued largely to the developed countries where the biotechnology industries were based.<sup>18</sup> The ABS framework of the CBD addresses this imbalance by requiring a part of the benefits that users derive from genetic resources to flow back to the original providers.

The first two objectives of the CBD are 'the conservation of biological diversity' and 'the sustainable use of its components'.<sup>19</sup> The benefit-sharing component appears to satisfy these first two objectives as it creates incentives for developing countries to conserve their biodiversity (the promise of benefit sharing), while at the same time providing access to the means for conservation (the content of benefit sharing). Thus, in theory, the CBD creates a win-win situation or grand bargain between the 'North' and the 'South',<sup>20</sup> with the fast growing bio-industries in the gene-poor developed countries benefitting from access to the genetic resources of the biodiversity-rich developing countries. These, in turn, would benefit from a share in the benefits (information, technologies, profits) accrued from these industries. Ideally, these measures would promote the conservation and sustainable use of biodiversity.

In this respect, the affirmation of the CBD that plant genetic resources fall under the sovereign rights of states<sup>21</sup> seems appropriate. One argument supporting this approach is that were the resources

still to be considered part of the common heritage of humankind, it would be logically impossible to demand compensation for access. On the contrary, it might well be argued that if resources are commonly owned then 'Who gets to use them should not depend on accidents of space and time'.<sup>22</sup> Thus, those countries, which happen to be rich in certain resources, ought to no more than grant, facilitate and regulate access to those that are not resource-rich.

Another argument for sovereign rights over plant genetic resources is that it may prevent a 'tragedy of the commons',<sup>23</sup> in which private gains ultimately become a universal loss. This theory describes a situation in which people have equal access to a limited resource. Countries and individuals acting primarily in their own self-interest are motivated to maximise use of the free resource to the point of exhaustion. The resource will then be lost even though this will not actually be in anybody's long-term interest. Such a scenario is, of course, particularly relevant to the case of genetic resources given the increasingly vulnerable state of the world's ecosystems housing its biodiversity and the pressing need to conserve which is the original reason why the CBD was developed in the first place.

But is this classification of plant genetic resources really well chosen? Certainly, the sovereign rights-based bilateral exchange model of ABS had a serious drawback, which soon became apparent. Shortly after the signing of the CBD in 1992, a rapid decline was observed in the international transfer of plant genetic resources for food and agriculture, and the number of new collections.<sup>24</sup> The main reason for this was that many countries emphasised the protection of their plant genetic resources against misuse, which created both multiple barriers for exchange and increased transaction costs. Furthermore, the immature status of the new ABS regulations in combination with the growing

18 P.W.B Phillips and C.B. Onwuekwede, *Accessing and Sharing the Benefits of the Genomics Revolution* (Dordrecht: Springer, 2007).

19 See CBD, note 9 above, Article 1.

20 M. Byström, P. Einarsson and C.A. Nycander, *Fair and Equitable: Sharing the Benefits From Use of Genetic Resources and Traditional Knowledge* (Uppsala, Tagstalund and Bjorkeryd: Swedish Scientific Council on Biological Diversity, 1999).

21 See CBD, note 9 above, Article 15 (1).

22 M. Risse, 'How Does the Global Order Harm the Poor?' 33/4 *Philosophy Public Affairs* 349, 360 (2005).

23 G. Hardin, 'The Tragedy of the Commons' 162 *Science* 1243 (1968).

24 C. Fowler and T. Hodgkin, 'Plant Genetic Resources for Food and Agriculture: Assessing Global Availability' 29 *Annual Review of Environment and Resources* 143 (2004).

number of allegations of biopiracy<sup>25</sup> scared away many potential users and collectors. This can be considered detrimental to agriculture and food security because crop improvement has always depended significantly on extensive flows of genetic material around the world.<sup>26</sup>

Another difficulty with the sovereign rights model of the CBD is that biological diversity and plant genetic resources do not readily fit into a national ownership model. Living organisms such as plants grow and multiply in large numbers and their seeds can travel across vast distances. Their valuable content lies especially in their DNA, which can be found in any part of every specimen. Furthermore, this DNA can be translated into information – the genetic sequence – which can in turn be disseminated through mechanisms such as the internet and then utilised without the user having access to the plant itself. These non-rival and non-excludable characteristics<sup>27</sup> mean that plant genetic resources cannot be appropriated and traded by a country in the same way as other natural resources, such as oil or timber.

But isn't this difficulty merely a restatement of an important motivation behind the ABS framework in the CBD in the first place? It is precisely because plant genetic resources were originally considered a common heritage of humankind and also have many characteristics of a public good that the CBD model of ABS as a bilateral exchange mechanism was established. Indeed, all that the ABS system does is attempt to ensure that countries receive some compensation for the use of their plant genetic resources because the resources can otherwise so easily be – and were being – exploited for free, especially by those with strong technical capacities.

In order to neutralise the harmful effects of the CBD on the agricultural sector, the Conference of the

Parties of the CBD invited the FAO to develop an alternative system for plant genetic resources related to food and agriculture. This resulted in the adoption of the ITPGR and its Multilateral System of Access and Benefit-Sharing.<sup>28</sup> As explained above, this Multilateral System includes a list of 64 major crops and forages freely accessible under a standard material transfer agreement, thus avoiding the need for bilateral negotiations. Through this system, the international transfer of the included resources has increased again, amounting to over 440,000 accessions in one year,<sup>29</sup> which represents more than 8500 transfers per week. Obviously, it would have been impossible to negotiate an ABS agreement on a bilateral basis for all these transfers.

So in essence, the ITPGR creates a gene pool, a genetic commons, while recognising the sovereign rights of States over their own plant genetic resources for food and agriculture.<sup>30</sup> Countries that have ratified the treaty and organisations such as the Consultative Group on International Agricultural Research and the International Atomic Energy Agency have put their plant genetic resources into the pool – the Multilateral System. Any party around the world can access these materials under the same, multilaterally agreed terms of the standard material transfer agreement. The ITPGR states that this facilitated access to plant genetic resources for food and agriculture 'constitutes itself a major benefit of the Multilateral System'.<sup>31</sup>

But next to this 'major benefit', the treaty also contains the obligation to share in a fair and equitable way the benefits arising from the utilisation of these resources.<sup>32</sup> This obligation is further specified in the standard material transfer agreement itself. Once a party develops and commercialises a new variety that incorporates material from the Multilateral System, and if this variety is not freely available to others for further research and breeding, that party

25 J. McGown, *Out of Africa: Mysteries of Access and Benefit-Sharing* (Washington DC: The Edmonds Institute, 2006).

26 See Fowler and Hodgkin, note 24 above.

27 Non-rival means that the consumption by one does not prevent others from enjoying the same good, and non-excludable means that non-owners cannot (easily) be excluded from consumption either. See I. Kaul, I. Grunberg and M. Sterneds, *Global Public Goods: International Cooperation in the 21st Century* (New York: Oxford University Press, 1999).

28 See ITPGR, note 13 above, part IV.

29 International Institute for Sustainable Development, 'ITPGR GB 3 #2', *Earth Negotiations Bulletin*, Tuesday 2 June 2009, available at <http://www.iisd.ca/download/pdf/enb09467e.pdf>.

30 See ITPGR, note 13 above, Article 10.1.

31 *Id.*, Article 13.1.

32 *Id.*, Article 1.1.



is obliged to pay 1.1 per cent minus 30 per cent of net sales of that product into the treaty's benefit sharing fund.<sup>33</sup> This trust fund distributes the accumulated funds according to multilaterally agreed-upon funding priorities such as to farmers in developing countries that conserve and sustainably use plant genetic diversity.<sup>34</sup>

## 4 PRINCIPLES OF JUSTICE IN ABS

But do the CBD and the ITPGR indeed succeed in establishing a fair and equitable ABS regime? To answer that question, this section first analyses what is understood by 'fair' and 'equitable' in this context. Although neither term is defined, the CBD, the ITPGR and the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation (Bonn Guidelines) point to several principles of justice that may guide the sharing of benefits derived from the utilisation of genetic resources.<sup>35</sup>

'Justice' is a very contested concept,<sup>36</sup> and there are several principles of justice each of which can be applied to a variety of contexts.<sup>37</sup> Their persuasive power for guiding people's moral behaviour is the topic of ongoing debate, and their legal force in international relations is strongly disputed.<sup>38</sup> Yet, principles of justice do point to ideas of fair treatment

and fair play and can, as such, serve as guidelines to identify the ethical dimensions of the international treaties and conventions under assessment. In other words, this section aims to employ different principles of justice as heuristic tools in order to clarify what is understood by fair and equitable benefit sharing in the context of the CBD and the ITPGR.<sup>39</sup>

The principle of justice that seems most relevant is the principle of 'entitlement'. This principle holds that someone's due is that to which one has a right or one is entitled to.<sup>40</sup> The CBD declares that each State has sovereign rights over their own biological resources.<sup>41</sup> It further makes reference to the 'country of origin of genetic resources',<sup>42</sup> in order to more specifically define this entitlement. Access to these resources is subject to sharing the benefits arising from the use of these resources 'with the Contracting Party providing such resources'.<sup>43</sup> As such, it is the principle of entitlement that forms the basis of the bilateral exchange mechanism that the CBD establishes: Countries are to be compensated for the use of the resources that fall under their sovereignty.

A second principle of justice that is relevant for guiding the fair and equitable sharing of benefits is the principle of 'desert'. According to this principle, a person's due is based on what one deserves in light of one's actions. While there are several desert-based principles each with a different interpretation of what should count as the basis for deserving,<sup>44</sup> in the context of ABS, one's contribution to the conservation and/or development of plant genetic resources seems most relevant. The Bonn Guidelines

33 Resolution 1/2006 'Standard Material Transfer Agreement', Madrid, 16 June 2006, in IT/GB-1/06/Report.

34 Bhatti, note 16 above.

35 This brief overview is derived from B. De Jonge, 'What is Fair and Equitable Benefit-sharing?' 24 *Journal of Agricultural and Environmental Ethics* 127 (2011).

36 K.H. Stumpf, *Reconstructing the 'Biopiracy' Debate from the Perspective of the Concept of Justice* (SSRN Working Paper Series, 2011).

37 B.B. Bunker and R.Z. Jeffrey eds, *Conflict, Cooperation, and Justice* (San Francisco: Jossey-Bass Inc. Publishers, 1995) and J. Greenberg and R.L. Cohen eds, *Equity and Justice in Social Behaviour* (New York: Academic Press, 1982).

38 C. Armstrong, *Global Distributive Justice: An Introduction* (Cambridge University Press, 2012).

39 This approach is in line with a pragmatist ethics, which does not start from an overarching moral principle or particular theory of social justice. Instead, it claims the freedom to apply existing moral principles and theories wherever they can contribute to the practical inquiry and ethical assessment of real-life questions and problems. See J. Keulartz et al., 'Ethics in Technological Culture: A Programmatic Proposal for a Pragmatist Approach' 29 *Science, Technology & Human Values* 3 (2004).

40 D. Miller, *Social Justice* (Oxford: Clarendon Press, 1976).

41 See CBD, note 9 above, Article 15 (1).

42 *Id.*, Article 2.

43 *Id.*, Article 15 (7).

44 J. Lamont, 'The Concept of Desert in Distributive Justice'

44 *The Philosophical Quarterly* 45 (1994).

state, for example, that ‘benefits should be shared fairly and equitably with all those who have been identified as having contributed to the resource management, scientific and/or commercial process’.<sup>45</sup> Similarly, with respect to the agricultural sector, the so-called ‘farmers’ rights’ that form the basis for benefit sharing in the ITPGR are based on the ‘enormous contribution that the local and indigenous communities and farmers of all regions of the world (...) have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world’.<sup>46</sup>

Although the principles of entitlement and desert both aim to regulate the fair and equitable sharing of benefits according to the idea of compensation, either on the basis of entitlements or contributions, the CBD and the ITPGR also point to another principle of justice, namely the principle of ‘need’. This principle holds that goods should be distributed in accordance with people’s needs. The principle forms the foundation for both the CBD and the ITPGR. The latter is particularly concerned about the fundamental need for food security, to which fair and equitable benefit sharing is linked as a principal objective.<sup>47</sup> The CBD, in turn, states that ‘conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential’.<sup>48</sup>

Next to these fundamental needs, the CBD and the ITPGR both refer specifically to the ‘special needs’ of developing countries and countries with economies in transition<sup>49</sup> to which benefits should primarily flow. In this way, both treaties acknowledge the extra help these countries and their

farmers and communities need if they are to reach the stated objectives. This relates to a fourth principle, namely the principle that ‘equals should be treated equally, and unequals unequally’,<sup>50</sup> meaning that due to the existing inequalities, developing countries are owed extra support and thus a relatively bigger share of the benefits. This idea that justice requires the unequal treatment of unequals will – in short – be referred to as the principle of ‘equity’.<sup>51</sup>

As discussed above, the concept of access and benefit sharing is, on first sight, primarily about compensation: Through the benefit sharing mechanism one is to be compensated for providing access to one’s resources. The principles of entitlement and desert are based on the sharing of benefits with those that have specific claims based upon the rights they hold or particular contributions they have made. The principles of need and equity, however, do not work like this. They focus instead on the distribution of benefits to those who need them most.

But despite this difference, it must be emphasised that both directions and purposes of benefit sharing are equally important. This becomes evident when one realises that it is exactly because of the inequalities and neediness in the world that the demand for benefit sharing as a compensation mechanism has evolved. Schroeder and Pogge show indeed that in an ideal world, it does not matter who provides the genetic material or traditional knowledge that lead to new inventions as long as we all have access to the benefits of their use.<sup>52</sup> Unfortunately, we do not live in such an ideal world, and a large proportion of people simply do not have access to either the benefits of modern research, or even those goods that can save their lives. It is against this background that the demands for benefit sharing become obvious and, indeed, justified.<sup>53</sup>

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45 Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation, *in* Report of the Sixth Meeting of the Conference of the Parties to the Convention on Biological Diversity, UN Doc. UNEP/CBD/COP/6/20 (2002), Article 48.

46 See ITPGR, note 13 above, Article 9.1.

47 *Id.*, Article 1.1.

48 See CBD, note 9 above, preamble.

49 *Id.*, Articles 12 & 17 and ITPGR, note 13 above, Article 13.

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50 B. Barry, *Political Argument* 152 (London: Routledge & Kegan Paul, 1965).

51 *Id.*

52 D. Schroeder and T. Pogge, ‘Justice and the Convention on Biological Diversity’ 23 *Ethics & International Affairs* 267 (2009).

53 *Id.*

# 5

## WHY IT IS VIRTUALLY IMPOSSIBLE TO ESTABLISH A FAIR AND EQUITABLE ABS REGIME UNDER THE CBD

As explained above, the CBD aims to establish a bilateral exchange model of ABS, which is primarily based on the sovereign rights of states over their own genetic resources, i.e. the principle of entitlement. In reality though, it is very difficult for (developing) countries to secure a fair and equitable exchange of their plant genetic resources for several reasons: First, there are the aforementioned non-rival and non-excludable characteristics of these resources,<sup>54</sup> which make it virtually impossible to exercise national control over their movement. Or as Safrin concludes:

The challenge presented to developing countries by the CBD is how to take a nonrivalrous, abundant resource and make it exclusive. How can nations prevent most, let alone all, genetic resources of potential value from leaving their borders? They cannot.<sup>55</sup>

Second, it is very difficult to determine and, thus, to establish conclusively, the country of origin of a particular genetic resource. For a country to claim that it is the country of origin it has to prove so in the face of millennia of evolutionary history.<sup>56</sup> Third, the CBD conditions relate only to the cross-border movement of resources after the treaty came into force. This means that countries may have no legal basis on which to demand compensation for the use of their resources by foreign parties, as much of their plant wealth has already long since left its native territory and is now to be found dispersed in botanical gardens and gene banks around the world.

Other difficulties relate to the situation in which a particular genetic resource is shared among or originates from multiple countries. The questions then are how to decide who gets a share of the benefits, what that share should be or how to prevent a race to the bottom as the party interested in the resource tries to negotiate the cheapest ABS agreement possible. In addition, there has never existed a substantial market for these resources, a fact that compounds the difficulties inherent in determining values for these genetic resources. This also makes it difficult to measure relative contributions, something on which a proper implementation of the principle of desert depends. Similarly, the contribution to the development and conservation of plant genetic resources of 'indigenous communities and farmers of all regions of the world',<sup>57</sup> which is central to the benefit sharing component in the ITPGR, cannot (and does not) serve as a concrete allocation principle.

Although this article focuses specifically on ABS in relation to plant genetic resources, it is worth mentioning that many of the difficulties experienced by (developing) countries are experienced also by farmers and communities in their efforts to protect and secure benefit sharing for their traditional knowledge. Looking at the principle of entitlement in this context, it appears that intellectual property rights would be the best instrument to protect one's traditional knowledge and to demand compensation for its use. Yet, in contrast to the knowledge that is developed by companies, universities and research centres, traditional knowledge holders cannot normally protect their knowledge through such rights. The main reason for this is that traditional knowledge is often openly and collectively developed in a communal environment, a socio-economic setting and cultural milieu which is very different from the competitive and industrial context of formal knowledge development and the corresponding intellectual property protection standards. Also with respect to the principle of desert, the difficulty is again to decide and quantify who gets what share of the benefits if the knowledge is shared among different communities, or even among different members within one community.

<sup>54</sup> See Kaul, Grunberg and Sterneds, note 27 above.

<sup>55</sup> S. Safrin, 'Hyperownership in a Time of Biotechnological Promise: The International Conflict to Control the Building Blocks of Life' 98 *The American Journal of International Law* 641, 665 (2004).

<sup>56</sup> M. Petit et al., *Why Governments Can't Make Policy: The Case of Plant Genetic Resources in the International Arena* (Lima: International Potato Centre, 2001).

<sup>57</sup> See ITPGR, note 13 above.

But as any transaction involves two parties, user countries can help to overcome these difficulties by implementing so-called ‘user-side measures’ to enforce or at least stimulate a just exchange of these resources. However, very few countries have implemented compliance mechanisms thus far. This has resulted in the current state of affairs where users who do not know or choose not to disclose the source or origin of the resources they utilise, can avoid compliance with any benefit sharing provision.

A final problem is that in many developing countries, farmers and traditional communities lack the informational, legal and financial resources to negotiate a fair agreement as do their counterparts in the developed world. A fair and equitable ABS regime can only be realised if all parties concerned have equal opportunities to participate in a transparent negotiation process, at all levels - local, national and international.<sup>58</sup>

Considering all of the above, it has to be concluded that it is practically impossible for ‘providing’ countries and communities to secure a fair exchange of either the plant genetic resources found within their territory or the traditional knowledge present in their culture. Of course, in some cases a specific (and undisputed) provider of a particular resource can be determined. This provider may then negotiate a fair and equitable ABS contract with a user party on mutually agreed terms. But given the aforementioned difficulties and characteristics of the resources involved, such cases are the exception as proven by the relatively small number of successful ABS agreements that are implemented since the adoption of the CBD.<sup>59</sup>

## 6

### DOES THE ITPGR DO ANY BETTER?

The ITPGR aims to regulate fair and equitable benefit sharing specifically for plant genetic

58 L.B. Solum, ‘Procedural Justice’ 78 *Southern California Law Review* 181 (2004).

59 S. Laird and R. Wynberg, *Access and Benefit-Sharing in Practice: Trends in Partnerships Across Sectors* (Montreal: Secretariat of the Convention on Biological Diversity, CBD Technical Series No. 38, 2008).

resources for food and agriculture that are included in the Multilateral System. Because of this multilateral approach, the ITPGR circumvents some of the main difficulties that frustrate the realisation of fair and equitable benefit sharing under the CBD: There is no need to prove a country of origin of resources, and once a country or organisation has put its gene bank under the auspices of the Multilateral System it does not matter when (or from where) the resources were collected. Also, the problems of determining the value of resources, the race to the bottom, and the power differences between negotiation parties are circumvented by the use of the standard material transfer agreement.

However, the ITPGR only governs a relatively small number of plant genetic resources. Further, while this treaty has been applauded for facilitating access to the 64 crops and forages included in its Multilateral System, its benefit sharing component is considered weak as no benefit sharing payments have been received so far.<sup>60</sup> One reason for this is that it generally takes seven to ten years to develop and commercialise a new variety,<sup>61</sup> a significant delay before benefits start flowing back into the system. And since many companies and breeders protect their new varieties by Plant Breeders’ Rights,<sup>62</sup> which allow others to use that variety for further breeding, they are exempt from the benefit sharing obligations in the ITPGR.

The FAO encourages users of the resources from the Multilateral System to make voluntary payments into the benefit-sharing fund.<sup>63</sup> Member States are requested to contribute,<sup>64</sup> and some have indeed

60 C. Chiarolla and S. Jungcurt, *Outstanding Issues on Access and Benefit Sharing under the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture 3* (Zurich: Berne Declaration & Oslo: Development Fund, 2011), available at [www.evb.ch/en/p25019093.html](http://www.evb.ch/en/p25019093.html).

61 P. Gepts, ‘A Comparison between Crop Domestication, Classical Plant Breeding, and Genetic Engineering’ 42 *Crop Science* 1780 (2002).

62 N.P. Louwaars et al., *Breeding Business: the Future of Plant Breeding in the Light of Developments in Patent Rights and Plant Breeder’s Rights* (Wageningen: Centre for Genetic Resources, The Netherlands, 2009).

63 See Resolution 1/2006, note 33 above, Article 6.8.

64 Report on the Implementation of the Funding Strategy, in Report of the Fourth Session of the Governing Body, Bali, FAO Doc. IT/GB-4/11/Report (2011).

done so.<sup>65</sup> A special case is Norway, which contributes 0.1 per cent of all national seed sales to the fund.<sup>66</sup> But despite these efforts, the voluntary contributions until January 2011 amounted to only 13.7 per cent of the agreed target between July 2009 and December 2014.<sup>67</sup> For these reasons, the expectation that the ITPGR, in its current form, will indeed establish a fair and equitable ABS regime is low, especially in developing countries.<sup>68</sup> Some developing country delegates have even threatened to pull out of the ITPGR if facilitated access to the plant genetic resources of the Multilateral System is not fairly balanced with benefit sharing.<sup>69</sup>

# 7

## IN SEARCH OF ALTERNATIVES: THE UTILISATION MODEL

But how then can a fair and equitable benefit sharing mechanism be organised? The current set up of the CBD makes it practically impossible for providing parties to secure a fair exchange of their resources. Therefore the author is of the opinion that the CBD is in need of fundamental change and there is a need to explore an alternative ABS mechanism guided by the principles of justice underlying both the CBD and the ITPGR. This implies that, at least for the moment, the socio-political realities of the negotiation process and respective country positions should be ignored. When searching for a possible alternative mechanism, one should keep in mind that the goal of benefit sharing is to realise some form of

compensation and equity. Furthermore, it should positively contribute to the other objectives of the CBD and the ITPGR, i.e. the conservation and sustainable use of biological diversity and food security.

Since it seems virtually impossible to realise a fair and equitable ABS regime on the basis of a mechanism that links benefit sharing obligations to the bilateral exchange of plant genetic resources, this article proposes an ABS mechanism that instead focuses on the utilisation of such resources - a model in which benefit sharing obligations are tied to the use of plant genetic resources rather than their exchange. One of the main advantages of such a model - apart from the fact that it does not depend on controlling the movement of plant genetic resources - is that it emphasises the responsibilities for benefit sharing on the user side. If users and user countries are serious about the objectives stated in the CBD and the ITPGR, they have to put a greater effort in the realisation of a fair and equitable ABS regime than has been done so far. In fact, the principle of equity holds that the strongest parties have the greatest responsibility in this regard. So, in contrast to the current situation, where the signing of an ABS agreement is a rare phenomenon, the developed countries and parties must take responsibility and make the system work.

According to Tvedt and Young, who first launched the idea of establishing this alternative ABS model, determining whether 'the user took an action that is considered to be the 'utilisation of the genetic resources' [is] a question that can be answered objectively and documented by evidence'.<sup>70</sup> Yet, this will only be possible if the contracting parties to the CBD manage to clearly define exactly which activities do and do not constitute utilisation of genetic resources that requires the sharing of certain benefits. One possible option is to set benefit sharing obligations for specific products from the moment that these products are placed on the market. This could include specific products such as cosmetics, propagation materials and pharmaceuticals, which are (partly) composed of, or derived from, genetic

65 *Id.* By December 2010, these were Spain, Italy, Australia, Ireland and Norway.

66 Bhatti, note 16 above.

67 See Chiarolla and Jungcurt, note 60 above.

68 C. Frison, F. López and J.T. Esquinas-Alcázar eds, *Plant Genetic Resources and Food Security. Stakeholder Perspectives on the International treaty on Plant Genetic Resources for Food and Agriculture* (Rome and London: FAO, Bioversity & Earthscan, 2011).

69 International Institute for Sustainable Development, 'ITPGR GB 3 Final', *Earth Negotiations Bulletin*, Monday 8 June 2009, available at <http://www.iisd.ca/download/pdf/enb09471e.pdf>.

70 M.W. Tvedt and T. Young, *Beyond Access: Exploring Implementation of the Fair and Equitable Sharing Commitment in the CBD 59* (Gland: IUCN, 2007).

material.<sup>71</sup> By specifically focussing on products that are placed on the market the use of genetic resources for research purposes is exempt.<sup>72</sup> Also, obligations for benefit sharing will apply irrespective of whether intellectual property protection is acquired or not.<sup>73</sup>

The decision what constitutes utilisation of genetic resources requiring benefit sharing will very likely be subject to lengthy international debate. Yet, the benefit of such an approach is that it can create a clear entry point for the ABS system. Together with the establishment of effective legislation in user countries to stimulate and enforce compliance with the ABS obligations, this could cut out the main loophole in the current system and secure that benefit sharing does in fact take place. This is, obviously, an important precondition for realising a fair and equitable ABS regime.

What is needed next is the development of a set of well-defined, minimum standards of benefit sharing obligations in tandem with a broad and creative menu of other sharing options. The former are needed to create clarity and a concrete basis for the whole system. Although they are likely to be formulated in monetary terms, they should not only reflect market-based criteria but also take into account the broader objectives of benefit sharing (supporting nature conservation, food security, equity, etc.). In the above example, one could for instance develop different benefit sharing standards for different products. In that way benefit sharing obligations set for cosmetics could be more demanding (e.g. involving higher monetary terms)

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71 Genetic material is defined in the CBD as any material of plant, animal, microbial or other origin containing functional units of heredity. See CBD, note 9 above, Article 2.

72 The current ABS framework has frequently been criticised for obstructing (public) research and development. See Laird and Wynberg, note 59 above.

73 There has been much international debate on the pros and cons of including disclosure requirements in patent applications in order to enforce compliance with benefit sharing obligations. One weakness of this approach is that it does not cover the many inventions for which no IPRs are applied. See e.g. C.F. Barber, S. Johnston and B. Tobin, *User Measures: Options for Developing Measures in User Countries to Implement the Access and Benefit-Sharing Provisions of the Convention on Biological Diversity* (Tokyo: United Nations University Institute of Advanced Studies, 2003).

than those set for propagation materials and pharmaceuticals, while seeds and essential medicines targeting the needs of developing countries could be exempted from benefit sharing obligations.

The establishment and enforcement of monetary minimum standards of benefit sharing may in turn promote the development and implementation of other, more advanced forms of non-monetary benefit sharing. For example, when companies have to obey certain monetary standards of benefit sharing it may become more attractive for them to invest in the sharing of information, technologies or services. Such forms of benefit sharing in kind have repeatedly been emphasised since they have the potential to be very valuable and efficient in terms of the broader objectives of both the CBD and the ITPGR.<sup>74</sup>

The establishment of minimum, monetary benefit sharing obligations are also needed to facilitate the collection of benefits into an international fund in cases where the provider of the utilised resources is unknown, undisclosed, or in dispute (i.e. orphan shares). Here, lessons can be drawn from the ITPGR. With respect to the distribution of the collected benefits, the contracting parties will have to decide on the desired allocation criteria. Keeping in mind the objectives of both the CBD and the ITPGR, and the fact that benefit sharing aims to realise some form of compensation and equity, a combination of allocation criteria would appear to offer the best prospects. Pursuing this avenue, benefits could be distributed with the aim of compensating those groups, countries or regions that have made considerable contributions to the conservation of biodiversity and promotion of food security – notably centres of origin or diversity, and with extra attention for those with special needs in this respect, and of marginalised and impoverished groups or peoples.

Finally, it has been emphasised that a fair and equitable benefit sharing system can only be realised if all parties concerned have equal opportunities to

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74 B. Visser et al., *Options for Non-monetary Benefit-sharing. An Inventory* (Rome: FAO, Background Study Paper No. 30, 2005) and M.S. Suneetha and B. Pisupati, *Benefit Sharing in ABS: Options and Elaborations* (Yokohama: United Nations University Institute of Advanced Studies, 2009).

participate in transparent negotiation processes. This implies, among other things, that serious efforts have to be undertaken to facilitate access to the international ABS negotiations (and individual ABS agreements) for representatives of farming and indigenous communities, and to support their ability to participate actively. It also involves that the alternative worldviews and perspectives of such communities are respected and treated as equal positions in dialogue. The fact that many traditional communities find themselves in a marginalised socio-political position only heightens the issue and extends the support that needs to be afforded to them in this respect.

## 8

### IS NAGOYA LEADING US IN THE RIGHT DIRECTION?

But to what extent is the utilisation model a realistic option? In order to answer that question this section will compare the proposed utilisation model with the latest international agreement on ABS: The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (Nagoya Protocol).<sup>75</sup> The Nagoya Protocol was the outcome of the tenth meeting of the Conference of the Parties to the CBD, which took place in October 2010. When evaluating its text with the proposed utilisation model in mind, it is seen that the protocol contains some promising elements.

Most importantly, the Nagoya Protocol demands the establishment of user measures, stating in Article 15 that:

Each Party shall take appropriate, effective and proportionate legislative, administrative or policy measures to provide that genetic resources utilised within its jurisdiction have been accessed in accordance with prior informed

consent and that mutually agreed terms have been established, as required by the domestic access and benefit-sharing legislation or regulatory requirements of the other Party.<sup>76</sup>

It continues by stating that ‘Parties shall take appropriate, effective and proportionate measures to address situations of non-compliance (...)’.<sup>77</sup> Furthermore, Article 17 holds that ‘To support compliance, each Party shall take measures, as appropriate, to monitor and to enhance transparency about the utilisation of genetic resources’.<sup>78</sup> Measures to be developed are, amongst others, the designation of several checkpoints and the development of an internationally recognised certificate of compliance.

Unfortunately, the user measures the Nagoya Protocol refers to are not further defined. For example, the designation of checkpoints is the responsibility of all contracting parties. With respect to the development of an internationally recognised certificate of compliance, explicit reference is made to Article 6 (3) (e), which leaves the responsibility for such certificate (and for most other legislative and administrative requirements necessary to make the ABS system operational) to the ‘Party requiring prior informed consent’.<sup>79</sup> As such, the Nagoya Protocol does not shift the responsibility for benefit sharing to the (developed) countries and parties that use plant genetic resources from abroad, but leaves it to the ‘country of origin of such resources’.<sup>80</sup>

Equally problematic for the establishment of a utilisation model on the basis of the current Nagoya Protocol is its description of what constitutes ‘utilisation of genetic resources’. Article 2 (c) states that ‘‘Utilisation of genetic resources’ means to conduct research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology’. ‘Biotechnology’ is defined as ‘any technological application that uses biological systems, living organisms, or derivatives thereof, to

<sup>75</sup> Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilisation to the Convention on Biological Diversity, Nagoya, 29 October 2010.

<sup>76</sup> *Id.*, Article 15 (1).

<sup>77</sup> *Id.*, Article 15 (2).

<sup>78</sup> *Id.*, Article 17 (1).

<sup>79</sup> *Id.*, Article 6 (3).

<sup>80</sup> *Id.*, Article 6 (1).

make or modify products or processes for specific use'.<sup>81</sup> This definition is far too broad to serve as a clear entry point for determining when benefit-sharing obligations would apply. As argued in the previous section, a clear definition of which activities do and do not constitute utilisation of genetic resources is an important precondition to secure that benefit sharing does in fact take place.

While the Nagoya Protocol requires the establishment of user measures, it is as strongly based on the bilateral exchange model of ABS as is the CBD. Fortunately, within the Nagoya Protocol there is one Article that opens the door for an alternative approach that is more in line with the proposed utilisation model. This is Article 10, entitled 'global multilateral benefit-sharing mechanism'. This Article states that:

Parties shall consider the need for and modalities of a global multilateral benefit-sharing mechanism to address the fair and equitable sharing of benefits derived from the utilisation of genetic resources and traditional knowledge associated with genetic resources that occur in transboundary situations or for which it is not possible to grant or obtain prior informed consent. The benefits shared by users of genetic resources and traditional knowledge associated with genetic resources through this mechanism shall be used to support the conservation of biological diversity and the sustainable use of its components globally.<sup>82</sup>

Such a global multilateral benefit sharing mechanism would be suitable to organise the collection and distribution of benefits in the many cases where the provider of genetic resources is unknown, undisclosed, or in dispute. Yet, again, this can only be operationalized once it is absolutely clear what act or activity triggers the obligation for benefit sharing in the first place. The description provided in Article 10 - 'the utilisation of genetic resources and traditional knowledge associated with genetic resources that occur in transboundary situations or for which

it is not possible to grant or obtain prior informed consent' - is not very useful in this respect. For example, in the case where it is not clear whether the resource in question has been collected before or after the CBD came into force, it will be impossible to enforce the sharing of benefits arising from their use.

Altogether we have to conclude that the Nagoya Protocol is still far from the proposed utilisation model. And given the history of the negotiation process in both the CBD and the ITPGR,<sup>83</sup> and also in other international bodies in which the use of plant genetic resources and related traditional knowledge are being discussed such as the World Trade Organisation and the World Intellectual Property Organisation, this section concludes that there are many countries that will not support such a mechanism at this time. But this may change. A time may come when member parties recognise that the Nagoya Protocol in its current form, depending as it does on controlling the movement of non-rival and non-excludable resources, does not lead to a workable ABS system for plant genetic resources. At that point member parties may seriously start to 'consider the need for and modalities of a global multilateral benefit-sharing mechanism', as the Nagoya Protocol proposes.<sup>84</sup>

The multilateral ABS system of the ITPGR will then be the main reference point. However, that system needs improvement. Once developing countries start pulling out of this treaty because of its weak benefit-sharing component, the proposed utilisation model may become more attractive because it can establish a clear entry point for benefit sharing, and emphasises the development of effective user measures. As a result it can ensure that benefit sharing does in fact take place. While the Nagoya Protocol has taken a first step in this direction by demanding the establishment of user measures,<sup>85</sup> it

<sup>81</sup> *Id.*, Article 2.

<sup>82</sup> *Id.*, Article 10.

<sup>83</sup> See Frison, López and Esquinas-Alcázar, note 68 above; G. Tansey and T. Rajotte eds, *The Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property, Biodiversity, and Food Security* (London and Ottawa: Earthscan / IDRC, 2008) and A.J. Stenson and T. Gray, *The Politics of Genetic Resource Control* (New York: Palgrave Macmillan, 1999).

<sup>84</sup> See Nagoya Protocol, note 75 above, Article 10.

<sup>85</sup> *Id.*, Article 15.



is still a long way towards the realisation of a robust, fair and equitable ABS regime. But if countries want to secure the international transfer of plant genetic resources, there is no other option than to keep working towards this objective.

## 9

### IN CONCLUSION

At this time, this article concludes that the limited levels of interest shown and commitment made by many developed countries and user parties is out of proportion to the substantial investments necessary in order to realise a fair and equitable ABS system. They remain far removed from the position developed in this article that it is the developed countries and their associated parties, which have the biggest responsibility to make the system work. Of course, developing countries and communities must play a role in the development of a fair and equitable benefit sharing regime, but, as Shue has stated, 'among a number of parties, all of whom are bound to contribute to some common endeavour, the parties who have the most resources normally should contribute the most to the endeavour'.<sup>86</sup>

This statement is based on the principle of equity, which is fundamental to the concept of benefit sharing. This means that as long as there are large inequalities between the different parties involved, benefits and burdens will be distributed unequally with the weakest getting more benefits and the strongest having to bear greater burdens. This would imply, for example, that developed countries bear most of the costs of the negotiation process and the development of international mechanisms (without receiving a stronger say during negotiations); that the current international intellectual property system be modified in order to protect and support traditional knowledge holders, who currently have least opportunities to secure and defend their rights; and that user parties accept significantly higher

benefit sharing standards and percentages than has been the case thus far.

It must be clear that benefit sharing entails burden sharing, so for a fair and equitable ABS regime to be realised the burdens also have to be shared, fairly and equitably. This article argues that the current bilateral exchange model of the CBD and the Nagoya Protocol can never be fair and equitable. Instead this article proposes an alternative ABS regime based on the utilisation of plant genetic resources instead of their exchange. By defining exactly which activities constitute utilisation of genetic resources requiring benefit sharing, a clear entry point for the ABS system can be established. Together with the development of effective legislation in user countries, this should ensure that benefit sharing does in fact take place. A set of well-defined, minimum standards of monetary benefit sharing obligations in tandem with a broad and creative menu of other sharing options would then make the system operational. Both with respect to the collection of orphan shares and the promotion of more advanced forms of non-monetary benefit sharing, such a system has the potential to be very valuable in terms of the dual objectives of nature conservation and food security. Keeping in mind these central objectives of the CBD, the Nagoya Protocol and the ITPGR, and the fact that benefit sharing aims to realise some form of compensation and equity, the collected orphan shares could be distributed with the aim of compensating those parties that have made considerable contributions to the conservation of biodiversity and promotion of food security, and pay attention to those with special needs.

Obviously, the establishment of such a system entails major efforts and investments by all parties – and especially the stronger. While it appears that the current socio-political environment is not supportive of this, countries that want to secure the international transfer of plant genetic resources and also really want to commit themselves to a fair and equitable ABS regime, should consider this proposal as a possibility.

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<sup>86</sup> H. Shue, 'Global Environment and International Inequality' 75 *International Affairs* 531, 537 (1999).

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