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**Regime on access to genetic resources and benefit sharing:
Conflicting interests with conservation and sustainable use of bio-
logical diversity?**

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Regime on access to genetic resources and benefit sharing. Conflicting interests with conservation and sustainable use of biological diversity?*

Abstract

Scientific research on biodiversity is one of the fundamental preconditions for the conservation and sustainable use of biological diversity and appreciation of the value of the diversity of genetic resources. Besides, it generates many non-monetary benefits that help countries to enhance their skills on biodiversity management and improve the understanding of their genetic resources. In order to generate new scientific insights, scientific research needs access to specimens of plants, animals and microorganisms. The CBD/NP regime which determines the conditions of access as well as regulates how such genetic resources are used can, however, be very prohibiting to this kind of research. This article analyses the relevant provisions in view of assessing the regime's impact on conservation and sustainable use of biodiversity. It concludes that its impact will depend on how the Nagoya Protocol is implemented. It also recommends States to facilitate access for basic biodiversity research while implementing the Protocol.

Keywords

- Convention on biological diversity
- Nagoya Protocol
- Conservation and sustainable use of biodiversity
- Access to genetic resources and benefit sharing
- Non-commercial scientific research

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I. Introduction

The Convention on Biological Diversity entered into force twenty five years ago. Its three main objectives are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the utilization of genetic resources,¹ respectively. This chapter will focus on the implementation of the third objective and its impact on the realization of the other two objectives.

The third objective (i.e. the fair and equitable sharing of the benefits arising from the utilization of genetic resources) finds its expression in Article 15 of the Convention on Biological Diversity (CBD). It starts with the reaffirmation of the sovereign rights of States over their natural resources.² It also recognizes the consequent authority of States to regulate access to genetic resources according to national legislations.³ In addition, it requires Parties to put measures in place in order to ensure that results of research and development and benefits arising from the utilization of genetic resources are shared in a fair and equitable way with providers of such resources based on mutually agreed terms.⁴ Besides, it requires that benefits that arise from the utilization of traditional knowledge associated with such resources (ATK) are shared fairly and equitably with the indigenous and local communities that hold such knowledge.⁵ It is upon these principles that the international legal framework of access and benefit sharing (ABS) is built. It comprises a number of rights and obligations of Parties participating in ABS. The framework embraces what is referred to as the ABC of ABS.⁶ Simply explained, ABC (which stands for Access, Benefit-sharing and Compliance) foresees that access shall be subject to the prior informed consent (PIC) of the CBD Contracting Party providing such genetic resources, unless that Party determines otherwise, and to the establishment of mutually agreed terms.⁷ Access to traditional knowledge associated with genetic resources is subject to the PIC or approval and involvement of indigenous and local commu-

¹ Article 1 CBD.

² Article 15.1 CBD.

³ Ibid.

⁴ Articles 15.7 CBD.

⁵ Article 8 (j) CBD.

⁶ For details see E.C. Kamau, 'Research and Development under the Convention on Biological Diversity and the Nagoya Protocol', in: E.C. Kamau, G. Winter and P.-T. Stoll (eds), *Research and Development on Genetic Resources. Public Domain Approaches in Implementing the Nagoya Protocol* (London: Routledge, 2015), 27-59; E. Morgera, M. Buck and E. Tsioumani, *Unraveling the Nagoya Protocol. A Commentary on the Nagoya Protocol on Access and Benefit-sharing to the Convention on Biological Diversity* (Brill: Martinus Nijhoff, 2014); T. Greiber *et al.*, *An Explanatory Guide to the Nagoya Protocol on Access and Benefit-sharing* (Gland, Switzerland: IUCN, 2012).

⁷ Articles 15 (5), 15 (4) CBD, respectively.

nities that hold such knowledge.⁸ This right or authority, however, is coupled with the obligation to facilitate access for environmentally sound uses and not to impose restrictions that counteract the first and second objectives of the CBD.⁹ The Party in whose territory the genetic resources and ATK are utilized shall put compliance measures in place to compel users to obey the ABS laws of the providing state and thereby facilitate the sharing of benefits.

The third objective addresses socio-economic concerns to a greater part but is also considered a vital tool in addressing conservation and sustainable use concerns. Being an environmental treaty, the CBD's approach of combining environmental and socio-economic objectives in one treaty seems strange. But the rationale should be understood this way: if the environment is to do well, its custodians will have to receive a benefit as an incentive, reward or compensation, if you like, for their contribution in nurturing it.

Before the adoption of the CBD, access to genetic resources was free as such resources were considered a common heritage of mankind. This led to two main problems: 1) Inequality in the maintenance and use of genetic resources/biodiversity. While developing countries which hold most of the biodiversity bore the burden of conservation and sustainable use alone, States with the greatest capacity to utilize, mostly developed countries, enjoyed the gains without the obligation to share them with the custodians of biodiversity. 2) Unrestricted access to genetic resources/biodiversity leading to overuse. The idea behind this approach hence was to stop rampant degradation of biological diversity, raise funds to enable its custodians to better conserve and sustainably use it and address socio-economic challenges that might have a negative impact upon biological diversity. In other words, the CBD takes a holistic approach to issues that affect biological diversity making it a milestone in the area of environment and development. Nonetheless the following question is raised in this article: How well can the CBD fulfil its environmental objectives with these seemingly disparate goals?

The implementation experience of the third objective up-to-date casts some doubt on the ability of ABS to achieve admirable results in conservation and sustainable use of biological diversity as anticipated by Parties to the CBD. The author hence asks whether the problem lies in the instrument or its implementation.

⁸ Article 8 (j) CBD.

⁹ Article 15.2 CBD.

The idea of sharing the costs of conservation and sustainable use between providers and users of genetic resources by itself suggests that some benefits should flow back to biodiversity conservation and sustainable use activities. The CBD was not able to legally knit this idea together as well as transform it into an obligation. But another problem is that its concept of access and benefit sharing (ABS) is built on the sovereign rights of States, which means that it embraces a *de facto* right for States to privatize genetic resources,¹⁰ and takes place on a bilateral basis. Therefore, the CBD lacks the legal basis to coerce States to invest the benefits shared with them in conservation and sustainable use activities. In addition, having the aim to likewise address socio-economic challenges, the CBD quasi legitimizes the use of such benefits for non-conservation budgetary purposes. But the important question in this regard is: Do States use such benefits concurrently for conservation and sustainable use of biological diversity?

These challenges are more likely to become detrimental to conservation and sustainable use of biological diversity the more the focus is fixed on monetary benefits. Non-monetary benefits produced by scientific research, however, yield a positive impact on biological diversity because they are often directly applied to its conservation. Basic biodiversity research also produces results that are publicly available and thus gives countries that do not have the capacity for intensive or extensive research the opportunity to use such results for their own goals.

Unfortunately, the procedural implementation of ABS has proved a greater hindrance to such research even than to research with commercial intentions. This is because domestic legislations of provider countries are often stringent and establish complex procedures which result to high transactional costs, legal uncertainty etc. Such costs and procedures can be prohibitive for non-commercial research, especially of a basic nature. In support of their approach, provider countries argued that user countries lacked measures within their jurisdictions to curb violations and abuse of their rights, and to ensure that benefits are shared with them.

The Nagoya Protocol (NP), which was adopted in October 2010 to implement the fair and equitable benefit sharing objective, introduces a number of innovations to mitigate the

¹⁰ E.C. Kamau and G. Winter, 'An introduction to the International ABS Regime and a Comment on its Transposition by the EU', *9/2 Law, Environment and Development Journal* (2013), 106, available at <http://www.lead-journal.org/content/13106.pdf> (accessed 26 September 2016).

standoff between providers and users of genetic resources. These innovations aim to ease access and ensure benefit sharing. In connection to conservation and sustainable use of biological diversity, it undertakes specific initiatives. First, it tries to 're-establish' the missing link between benefit sharing and conservation and sustainable use of biological diversity by encouraging as well as obliging Parties to use benefits derived from utilization of genetic resources for conservation and sustainable use purposes.¹¹ Second, it creates a special regime for research which contributes to conservation and sustainable use and access for non-commercial research purposes, by requiring Parties to facilitate access for such research.¹²

This article examines the CBD legal framework for ABS in an attempt to identify its failure to construe obligations on ABS in a way that can impact positively on conservation and sustainable use of biodiversity. It then looks at the provisions of the Nagoya Protocol and how they aim to fix the weaknesses of the CBD. Noting that the sovereign rights of States and the bilateral approach of ABS have not been tampered with by the NP, it concludes that the impact ABS will make on conservation and sustainable use of biological diversity in future will greatly depend on how States implement their CBD/NP obligations.

II. Convention on Biological Diversity: A strange conservation approach?

The Convention on Biological Diversity (CBD) entered into force on 29 December 1993 and has three main objectives: 1) the conservation of biological diversity; 2) the sustainable use of its components; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.¹³

Being an environmental treaty, its approach to conservation is exceptional and differentiates it from other environmental treaties in two major ways. First, it applies a broad ecosystem approach thus addressing biological diversity as a whole in a single legal instrument.¹⁴ Other environmental treaties apply a sectoral approach to biological diversity that focuses on specific species, ecosystems, or sites.¹⁵ Second, in addition to conservation of biodiversity it also addresses related socio-economic aspects as it is evident in its three objectives. Alt-

¹¹ Articles 9 and 10 NP.

¹² Article 8 (a) NP.

¹³ Article 1 CBD.

¹⁴ T. Greiber *et al.* (2012), at 3. In Article 2, the CBD defines biological diversity as the variability among living organisms from all sources, occurring at three levels: diversity within species (genetic diversity), diversity between species, and diversity of ecosystems.

¹⁵ T. Greiber *et al.*, *ibid.*

though this latter approach brings innovation in the field of environment and development,¹⁶ it is a bit peculiar and forms the subject of our discussion. In line with the focus of our discussion, we raise two major questions: What was the purpose of combining environmental and socio-economic aspects in a single treaty? How easily can the CBD achieve its seemingly sectorally antagonistic or incompatible objectives?

The adoption of the three broad objectives of the CBD was a result of opposing interests of developing and developed countries (the so-called North-South divide) that characterized the United Nations Conference on Environment and Development (UNCED) and its preparatory meetings.¹⁷ Throughout this process, many States, particularly from the South, were not willing to accept a convention that focused only on biodiversity conservation.¹⁸ The conservation burden fell squarely on the South where most of the rich biological diversity is found. While the North had the capacity to make use and gain from the genetic components of biological diversity, the South did not, yet the former retained all the gains. At that time there was no obligation to share benefits from what was considered as a common heritage of mankind. In reaction to this imbalance, the majority of developing countries pushed for the 'Rio package deal'. They made their support for conservation obligations conditional on more direct use-oriented provisions. Likewise, they made it conditional on obligations and measures on three types of access: 1) access to genetic resources subject to national authority; 2) access to relevant technology, including biotechnology; and 3) access for the providing States to benefits ultimately gained from the use of genetic material in the development of biotechnology.¹⁹ In the end, access to genetic resources and the fair and equitable sharing of the benefits arising out of their utilization was introduced as the third objective of the CBD. It was meant to take into account the need to share the costs as well as the benefits of biodiversity conservation between developed and developing countries and to find ways and means of supporting practices and innovations of indigenous and local communities that contribute to the conservation and sustainable use of biological diversity.

The inclusion of the three objectives in one treaty was hence an attempt to reconcile the environment and economy and to surmount the North-South conflict, thereby achieving

¹⁶ Ibid.

¹⁷ L. Glowka *et al.*, *A Guide to the Convention on Biological Diversity* (Gland, Switzerland: IUCN, 1994); *ibid.*, at 4.

¹⁸ Ibid.

¹⁹ L. Glowka *et al.* (1994), at 5.

sustainable development.²⁰ As the ensuing discussion will show, this combination does not necessarily seem to have made it easier for the CBD to achieve conservation and sustainable use of biological diversity through benefit sharing. Even harder maybe for the CBD was to ensure that benefits arising from the use of biological diversity were shared.

1. The access and benefit-sharing maze

The CBD reaffirmed the sovereign rights of States over their natural resources. Based thereon, the authority of States to determine how access to genetic resources should be carried out is acknowledged. It also recognized the right of the provider of such resources to receive a share of the benefits that arise from their use.²¹ This concept is widely referred to as access and benefit sharing (ABS). It is embedded in the third objective of the Convention, the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Why or how is this objective, or its implementation, relevant to conservation and sustainable use of biological diversity? In practice, is it supportive or in conflict with the other two objectives? In this discussion, the role of benefit sharing on conservation and sustainable use of biological diversity shall be measured based on its impact on the same.

a) Legal and practical impact

As earlier said, in including what is rather an economic and development objective in an environmental treaty, the fathers of the CBD aimed to have costs of conservation and sustainable use shared between providers and users of genetic resources. Essentially, it implies that the benefits arising from the use of genetic resources should find their way back to conservation and sustainable use activities.

By itself, this is a brilliant yet still problematic idea. The first problem is that it never found an explicit expression in the CBD-text. The CBD indeed reaffirms that ‘... States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner’, in its fifth preamble paragraph, but does not prescribe the means. The CBD has no provision that places an obligation upon Parties to invest the benefits shared with them in conservation and sustainable use of biological diversity. It is true that by em-

²⁰ U. Brand, *Zwischen Schutz, Rechten und Kommerzialisierung. Die Konvention über biologische Vielfalt im Globalisierungsprozeß und Chancen demokratischer Biodiversitätspolitik* (Berlin: Karl Dietz Verlag, 2008), at 10; P.-T. Stoll, ‘Die CBD, Genetische Ressourcen und traditionelles Wissen: Konflikt und symbolisches Recht’, in: A. Fischer-Lescano *et al.* (eds), *Frieden in Freiheit. Festschrift für Michael Bothe zum 70. Geburtstag* (Baden-Baden, Nomos, 2008), 769-786.

²¹ Article 15 (1), (7) CBD.

bracing socio-economic concerns, the CBD was also engaging itself with other non-environmental questions, including poverty eradication, which it recognizes in the 19th preamble paragraph as ‘overriding priorities of developing countries’. Could this have made it a bit shy to more boldly advance the idea of linking monies shared with providers of genetic resources to conservation?

In October 2010 a binding international instrument called the Nagoya Protocol was adopted in Nagoya, Japan, to implement the third objective of the CBD.²² Like the CBD, it shows the importance of benefit sharing to conservation and sustainable use of biological diversity. In preambular paragraph 6 the Protocol recognizes the fair and equitable sharing of the economic value of ecosystems and biodiversity with their custodians as a key incentive for the conservation and sustainable use of biodiversity. In preambular paragraph 7 it acknowledges the role of access and benefit sharing in contributing to *inter alia* the conservation of biodiversity and environmental sustainability. The Protocol, however, goes further than the CBD by creating a more direct link between benefit sharing and conservation and sustainable use of biodiversity. In Article 1 it shows that benefit sharing should contribute to the conservation of biodiversity and the sustainable use of its components. In Articles 9 and 10 this desired link is expressed more or less as an obligation. Article 9 requires Parties to ‘... encourage users and providers to direct benefits arising from the utilization of genetic resources towards the conservation of biological diversity and the sustainable use of its components’. Article 10 establishing a global multilateral benefit-sharing mechanism (GMBSM) is formulated in a stronger language and states that, ‘... 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’ (italics added).

Unfortunately, the language of Article 9 is very weak. The use of the term ‘encourage’ after ‘shall’ is contra-productive as it diminishes what should have otherwise been a strong obligation into more or less a voluntary action. It will therefore hardly prevent provider States from using obtained benefits for normal budgetary purposes, or guide user States to sup-

²² In full the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity (hereinafter Nagoya Protocol or Protocol).

press the development of unsustainable products.²³ Nevertheless, it is a reminder that States are expected to act differently.²⁴

On the other hand, Article 10 is more commanding with regard to using benefits from utilized genetic resources and ATK for conservation and sustainable use of biodiversity. However, it limits itself to only benefits from genetic resources and ATK that occur in transboundary situations or for which it is not possible to grant or obtain prior informed consent.²⁵ In other words, the article deals with a situation where the sovereign rights of States might not be functional, or at least not directly functional. It therefore fails to strengthen the idea as a general approach to all benefits. Its language is also weak concerning the need for such a mechanism and requires Parties to only ‘consider the need’ for such a mechanism. This mishmash of authoritative and voluntary language at the end is defeating to the course because it leaves it to the discretion of Parties to establish such a benefit-sharing mechanism or not. If none is established, the authoritative clause will have no function. Consultations are still ongoing on how best such a system could be established as well as operationalized.²⁶

The second problem is that users cannot prescribe or monitor how the monetary benefits shared with providers are used. The reason for this is because the territoriality principle of international law bars States from exercising jurisdiction beyond their borders.²⁷ Could the closing clause of Article 15.7 CBD and 5.1 NP, ‘[s]uch sharing shall be upon mutually agreed terms’, nevertheless be interpreted as giving users some basis to co-determine how the benefits are used?

It is doubtful that the said clause is concerned with how benefits are used but rather with which benefits (or forms of benefits) can be shared and in which ‘quantity’. But it is also important to mention that the decision to grant or deny access fully depends on the providing

²³ E.C. Kamau and G. Winter (2013).

²⁴ Ibid.

²⁵ At the request of COP-11 the SCBD organised an online expert forum from 8 April to 25 May 2013 to discuss what such situations might be. See http://absch.cbd.int/Art10_groups.shtml for the full text of the online discussions. The revised synthesis document UNEP/CBD/ICNP/3/INF/4 is available at <http://www.cbd.int/doc/meetings/abs/icnp-03/information/icnp-03-inf-04-en.pdf> (accessed 26 September 2016).

²⁶ See e.g. IISD (19 December 2016) Biodiversity conference adopts 70 decisions, <http://sdg.iisd.org/news/un-biodiversity-conference-adopts-over-70-decisions/> (accessed 27 February 2017). This refers to decisions made during the last COP in December 2016 in Cancun, Mexico.

²⁷ S.D. Murphy, *Principles of International Law* (Thomson West, 2006). This principle has some limited exemptions e.g. when a case has substantial effect on the state’s interests or involves its citizens.

state, as discussed in details below. As the greater interest of the (potential) user is to succeed in the application for or process of access, s/he will certainly want to avoid demands that may seem to meddle in issues that are a prerogative of the provider. In any case, as already mentioned, benefit sharing is perceived as a tool to address not only conservation and sustainable use needs, but also socio-economic needs. Therefore, how the benefits are dispensed seems to be the exclusive business of the provider. The impact such benefits can create hence would depend on the implementation approach of individual States.

b) Procedural and practical impact

The Convention's framework for the implementation of the benefit-sharing objective is based on the sovereign rights of States over their natural resources. These (sovereign) rights are the foundation upon which the authority of States to determine access to genetic resources subject to national legislation is built. It is also the basis upon which States have the right to demand a share of the benefits that accrue from the utilization of genetic resources. The way to exercise that authority as well as ensure that the corresponding obligations are obeyed is described under Article 15 CBD as follows:

Access to genetic resources is subject to the PIC of the Contracting Party to the CBD that is providing such genetic resources, unless that Party determines otherwise.²⁸ Access, where granted, shall be on mutually agreed terms (MAT) and subject to the provisions of this article.²⁹ The Contracting Party to the CBD in which research and development on the accessed genetic resources is carried out shall take legislative, administrative or policy measures to ensure that the benefits arising from the commercial and other utilization of such resources are shared in a fair and equitable way with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.³⁰

On this basis a framework is formed which in turn produces the procedure described below. Its analysis will help to establish the impact of ABS on research, which is crucial for conservation and sustainable use of biological diversity.

²⁸ Article 15 (5) CBD.

²⁹ Article 15 (4) CBD.

³⁰ Article 15 (7) CBD.

2. Determination and authorization of access

Prior informed consent and mutually agreed terms are the primary tools that a provider state would use to authorize access to genetic resources, determine their subsequent use and establish the fair and equitable sharing of benefits from their utilization.³¹ The concept of PIC is based on the principle that prior to access to genetic resources by potential users, those affected and those authorized to make decisions should be informed about the potential uses so that they can make a decision to either allow or refuse access with full knowledge of the matter.³² In the context of ABS, PIC requires that the provider who makes the genetic resources available gives consent through an affirmative act based on information provided by the potential user of the genetic resources prior to the actual decision of the provider.³³

According to practice, the list of information necessary before a provider can make a decision to grant or deny PIC can be extremely long. Paragraph 36 of the Bonn Guidelines³⁴ contains an indicative list of such information (see box 1) but each competent national authority will normally make demands according to national circumstances. Save the amount of information required, it might be difficult to accurately give some of the prior required information before the research commences. Alone these factors can present immense challenges especially for basic scientific research. In addition, the provider may subject access to numerous and extensive conditions e.g. on reporting and benefit sharing thus complicating the process further.³⁵ However, the actual complexity of obtaining PIC lies in the procedure that ensues from this requirement.

³¹ See also T. Greiber *et al.* (2012), at 8f.

³² *Ibid.*, at 9.

³³ *Ibid.*

³⁴ The Bonn Guidelines are a guide for users and providers intended to assist them inter alia in developing mechanisms and arrangements for ABS with the participation of relevant stakeholders and based on their prior informed consent and mutually agreed terms. They also provide an indicative list of MAT and possible monetary and non-monetary benefits. The guidelines were developed by the Ad Hoc Open-ended Working Group on Access and Benefit-sharing with the mandate of COP-5 (2000) and adopted by COP-6 in 2002.

³⁵ G. Winter, 'Towards Regional Common Pools of GRs – Improving the Effectiveness and Justice of ABS', in: Kamau/Winter (eds) *Genetic Resources, Traditional Knowledge and the Law. Solutions for Access and Benefit Sharing* (London: Earthscan, 2009) at 20, questions whether Article 15.4 CBD which states that 'Access, where granted, shall be on mutually agreed terms ...' does not strengthen the position of the user States to hinder providing States from subjecting them to meticulous conditions. He says that the clause 'where granted' acknowledges the power of the provider state to decide whether to grant access or not. This sort of overrides the clause on MAT and, according to Winter's words, 'makes bilaterally agreed terms dependent on a unilateral decision of the provider country'.

Box 1: Indicative list of information to be provided prior to decision to grant PIC

- (a) Legal entity and affiliation of the applicant and/or collector and contact person when the applicant is an institution;
- (b) Type and quantity of genetic resources to which access is sought;
- (c) Starting date and duration of the activity;
- (d) Geographical prospecting area;
- (e) Evaluation of how the access activity may impact on conservation and sustainable use of biodiversity, to determine the relative costs and benefits of granting access;
- (f) Accurate information regarding intended use (e.g.: taxonomy, collection, research, commercialization);
- (g) Identification of where the research and development will take place;
- (h) Information on how the research and development is to be carried out;
- (i) Identification of local bodies for collaboration in research and development;
- (j) Possible third party involvement;
- (k) Purpose of the collection, research and expected results;
- (l) Kinds/types of benefits that could come from obtaining access to the resource, including benefits from derivatives and products arising from the commercial and other utilization of the genetic resource;
- (m) Indication of benefit-sharing arrangements;
- (n) Budget;
- (o) Treatment of confidential information

Source: Bonn Guidelines, <https://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf>, 11.

The CBD does not prescribe a uniform PIC procedure. That it cannot as the administrative and procedural architecture of access to a great extent depends on the construct of relevant national law(s). In addition, it is, again, the right of each state to determine access based on

its sovereign rights over natural resources. This, therefore, gives each Party the discretion to design its own procedure according to national law –determining the manner and extent in which PIC should be obtained. The result of such discretion is that even the procedure for basic research would depend on the approach of the individual provider country. In the Philippines, a researcher will have to go through a complex and protracted PIC procedure. In Australia where differentiation between non-commercial and commercial research is made the access procedure for basic research is facilitated. In Germany PIC requirement is generally waived for both non-commercial and commercial research. Focus is drawn to complex and protracted procedures.

The Philippines ABS legislation, Executive Order No. 247 of 18th May 1995, is among those legislations that are often quoted as having a complex and protracted PIC procedure.³⁶ It allows bioprospecting only with the PIC of all the indigenous and local communities involved.³⁷ Based on the fact that an applicant may want to conduct research in sites occupied by different communities, a certificate of PIC from each community will have to be sought by the applicant himself. Each community might have different requirements and/or impose different terms and conditions since the PIC is obtainable in accordance with the customary laws of the concerned community (Sect. 2 a). It might also not be easy to identify who represents a particular community. Because the communities have to be notified and consulted, a period of 60 days is set aside for this purpose. A certificate of PIC cannot be granted before this period expires. Therefore, an applicant for an access permit has approximately five months to wait in total before an approval is granted. The procedure is also costly for the applicant because s/he bears all the costs, including for notification. Due to the nature of this law, by the year 2004 only one from eight applications for commercial research had been approved and only one from seventeen for academic research.³⁸

³⁶ See for example E.C. Kamau, 'Facilitating or Restraining Access to Genetic Resources? Procedural Dimensions in Kenya', 5/2 *Law, Environment and Development Journal* (2009), 152 at 156. Available online at <http://www.lead-journal.org/content/09152.pdf> (accessed 26 September 2016). It was among the first to transpose the ABS provisions of the CBD at the national level. Its reactionary stance is partially blamed on lack of compliance measures in user countries.

³⁷ See also A. Smagadi, 'National Measures on Access to Genetic Resources and Benefit Sharing – the Case of the Philippines', 1/1 *Law, Environment and Development Journal* (2005), 50 at 61 (accessed 27 February 2017).

³⁸ J.C. Medaglia, *A Comparative Analysis on the Legislation and Practices on Access to Genetic Resources and Benefit Sharing (ABS): Critical Aspects for Implementation and Interpretation* (Bonn: IUCN, 2004), 192; G. Duffield, 'Developing and Implementing National Systems for Protecting Traditional Knowledge: A Review of Experiences in Selected Countries', in: S. Twarog and P. Kapoor (eds) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimension* (United Nations, 2004), 141-153, available online at http://unctad.org/en/docs/ditcted10_en.pdf (accessed 27 September 2016).

Many national ABS legislations that followed copied much from their predecessors, some even becoming stricter. The Kenyan ABS legislation³⁹ is among such.⁴⁰ Due to its multiple-PIC-requirement that demands PIC of all relevant lead agencies⁴¹ and (all) relevant indigenous and local communities, the procedure is very protracted and can last up to seven months, which is even longer than the one of the Philippines. It is also quite expensive as each PIC would require a fee, in addition to other administrative expenses and the eventual fee of the access permit of the competent national authority, if granted. The different requirements of numerous lead agencies, though often having overlapping jurisdictions and mandates, create a very cumbersome procedure. In addition, the lack of clear representation of the indigenous and local communities, the short validity of access permits, the lack of an information portal on the access procedure,⁴² the lack of an online application procedure etc. create legal uncertainty for potential users of genetic resources and traditional knowledge associated with such resources. Such conditions cause an upsurge in transactional costs thus greatly hampering not only the activities of non-commercial research but also commercial. Whereas commercial research activities nonetheless might endeavour to proceed in such circumstances, non-commercial ones, especially those of basic scientific re-

³⁹ In full it is known as The Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 and can be accessed online at

http://www.nema.go.ke/index.php?option=com_phocadownload&view=category&id=23:biodiversity-benefit-sharing-regulations&Itemid=567 or

[http://www.abs-](http://www.abs-initiative.info/fileadmin/user_upload/Documents_ICIPE/legal_texts/Legal_Kenya_ABS_REGS_text.pdf)

[initiative.info/fileadmin/user_upload/Documents_ICIPE/legal_texts/Legal_Kenya_ABS_REGS_text.pdf](http://www.abs-initiative.info/fileadmin/user_upload/Documents_ICIPE/legal_texts/Legal_Kenya_ABS_REGS_text.pdf). It came into force in 2006. It is the law that concretized the Environmental Management and Co-ordination Act No. 8 of 1999 (EMCA) which had adopted the provisions of the CBD on biodiversity conservation, sustainable utilization of its components and access as well as the fair and equitable sharing of the benefits arising from the utilization of genetic resources in its sections 50, 51, 52 and 53.

⁴⁰ For a detailed analysis of the access procedure see E.C. Kamau (2009), at 158ff.

⁴¹ The EMCA defines a 'lead agency' under section 2 as '... any Government ministry, department, parastatal, state corporation or local authority, in which any law vests functions of control or management or any element of the environment or natural resources'.

⁴² It is commendable that the Kenyan competent national authority, the National Environmental Management Authority (NEMA), has uploaded information on procedures for accessing genetic resources in Kenya on its website (see http://www.nema.go.ke/index.php?option=com_content&view=article&id=139&Itemid=492). However, this is more or less an extract of the relevant provisions of the ABS legislation. On the one hand this is also useful as it condenses the access information of the legislation into a single document thus saving interested persons the bother of searching it in the general biodiversity legislation. On the other hand, more concrete and practical guidance should be given based on the administrative and procedural reality. For example, instead of verbatim repetition of the provisions of the legislation concerning PIC of relevant stakeholders, an information portal should also indicate who those stakeholders are in the country by naming them, e.g. in Kenya, the Kenya Wildlife Service, Kenya Forest Service, National Museum of Kenya etc. for lead agencies, which resources are under the jurisdiction of each (this will make it clear from whom one should seek PIC), what are the PIC requirements of each stakeholder, what are the (approximate) timelines, and so on.

search are likely to cease. Non-commercial research often depends on a lean budget and does not anticipate any monetary gains as it produces public domain results.

3. Benefit sharing obligation

As already mentioned, the sovereign rights of States over their natural resources also give them the right to couple the use of genetic resources to certain conditions. One such condition is that the user shall share benefits fairly and equitably with the provider. Our concern in this discussion is: which types of benefits does the provider demand from the user of genetic resources for non-commercial purposes?

Following the adoption of the CBD, many developing countries hoped to cash on millions of dollars from genetic resources, which were perceived as 'green gold'. Apart from inducing overregulation and thus impeding access as discussed above, the perception produced a preference for monetary rather than non-monetary benefits.⁴³

A demand to share monetary benefits can be a hindrance to non-commercial research. In particular basic biodiversity research would be highly disadvantaged because, as already mentioned, it often depends on a lean budget and it does not aim to produce commercial benefits. However, non-commercial research in general has other benefits that can be shared and that can make a tremendous contribution in different dimensions. The NP lists a whole lot of non-commercial benefits in the Annex that can be shared by such research, including sharing of research and development results; collaboration, cooperation and contribution in scientific research and development programmes, particularly biotechnological research activities; participation in product development; strengthening capacities for technology transfer; institutional capacity-building; training related to genetic resources with the full participation of countries providing genetic resources, and where possible, in such countries; and access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies.⁴⁴ This shows the breadth of gains that non-commercial research can produce. Such gains are more likely capable of creating a more sustainable impact on the environment and on the general scientific and industrial base as well as its expansion and development than monetary ones. In-

⁴³ E.C. Kamau (2009), at 154.

⁴⁴ See Annex of NP text for more non-monetary benefits, online available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>, at 24f.

deed, most contribution in growth of science in the developing world has been in the form of indirect benefits made by short-term basic research programmes.⁴⁵

In establishing mutually agreed terms on benefit sharing from non-commercial research, and especially research that contributes to the conservation and sustainable use of biological diversity, it is therefore crucial for the providing state to take this factor into consideration. It can also be a facilitation measure to explicitly declare in legislative, regulatory or policy measures that such research is exempt from sharing monetary benefits. That does not exclude the possibility of liquid cash flowing into the research e.g. for salaries for locals and other forms of monetary assistance in collaborative activities.

III. Facilitation of non-commercial research: The dilemma

The concerns of the international research community *vis-à-vis* the difficulties it faces as a result of the access requirements of national ABS legislations were among the discussion items in the negotiations leading to the adoption of the international regime of access and benefit sharing, the Nagoya Protocol. Concerned about restrictions that readily hinder non-commercial research,⁴⁶ the international scientific community lobbied for facilitated access, i.e., a simpler and faster procedure initially referred to as 'fast track'.⁴⁷ To push such demands through more easily it would have been probably helpful to show the clear difference which exists between commercial and non-commercial research in order to guarantee the comfort of provider countries in this regard. Was that possible? Is it possible at all?

Based on the work of a non-commercial research sector workshop in 2008 in Bonn, Germany, a Working Group elaborated definitions characterizing commercial and non-commercial research (see table 1). The results of the workshop were fed into the negotiations and were critical to the final achievements of the sector.⁴⁸

⁴⁵ E.C. Kamau (2009), at 154.

⁴⁶ T. Greiber *et al.* (2012), at 117.

⁴⁷ E.C. Kamau, B. Fedder and G. Winter, 'The Nagoya Protocol on Access to Genetic Resources and Benefit Sharing: What is New and What are the Implications for Provider and User Countries and the Scientific Community?', 6/3 *Law, Environment and Development Journal* (2010), 246 at 256. Available online at http://www.lead-journal.org/current_issue.htm.

⁴⁸ See CBD GTLE information document 1/INF/2, Concepts, Terms, Working Definitions and Sectoral Approaches Relating to the International Regime on Access and Benefit Sharing, UN Doc. UNEP/CBD/ABS/GTLE/1/INF/2 (2008) at 5 and CBD WG-ABS official document 7/2, Report of the Meeting of the Group of Legal and Technical Experts on Concepts, Terms, Working Definitions and Sectoral Approaches, UN Doc. UNEP/CBD/WG-ABS/7/2 (2008), Paragraphs 13 and 43–44.

Table 1: Characteristics differentiating commercial and non-commercial research

	Commercial research	Non-commercial research
Public availability	Often restricts access	Produces public domain results which are publicly available
Intentions	Generates market products	Purely non-commercial
Beneficiary	Primarily benefits users	Results benefit providers, conservation, ecosystem analysis, and characterization of organisms
Types of benefits	Generates long-term, monetary benefits	Generates near-term, non-monetary benefits

Source: Author based on UN Docs. UNEP/CBD/ABS/GTLE/1/INF/2 (2008) at 5 and UNEP/CBD/WG-ABS/7/2 (2008), paras 13 and 43–44 (see note #).

The approach used to make this differentiation suggests a functional rather than a substantial criterion of distinction. That means, if the research aims at enriching the public domain, it is non-commercial, but if it aims at the privatization of material and knowledge, it is commercial.⁴⁹ Hence, ‘basic’ research whose substance is taxonomy can be seen as commercial, if the result (such as a gene) is patented.⁵⁰ On the other hand, ‘applied’ research whose substance is, for example, the development of a marketable product can be considered non-commercial if the result is made publicly available.⁵¹

How difficult it is to convincingly draw a clear dividing line between the two types of research is appreciable. Several reasons have been stated why that is almost an unachievable task:⁵²

- Both the private sector and research institutions (for example, universities) can be involved in commercial as well as non-commercial research.

⁴⁹ E.C. Kamau and G.Winter (2013).

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Id. 119 and UNEP, 'Report of a Workshop on Access and Benefit-Sharing in Non-Commercial Biodiversity Research' (9 March 2009) UNEP/CBD/WG-ABS/7/INF/6, 5.

- Similar research methods and processes are generally used in commercial as well as non-commercial research.

- Both types of research usually require access to the same biological materials and genetic resources.

- Both types of research can be beneficial for conservation and the sustainable use of biological diversity.

That far, the two possibly weightier arguments for asking for facilitated access is the absence of any initial intention to make use of the accessed material for commercial purposes and/or to monopolize the results. But is that enough for the provider to accede to facilitated access?

Certainly, some open questions still remain. As the results of non-commercial research can easily be used for proprietary purposes (either by the recipient of genetic resources or third parties),⁵³ how can violations and abuse of the non-commercial use terms and conditions be curbed? How can it be ascertained that the provider benefits from commercial benefits of further research on public domain information based on genetic resources that were acquired through a facilitated procedure? Such considerations made it hard for providers to concede to an approach different from that accorded to access for commercial purposes. Probably it is also legitimate to mention that public availability of research results might not always suffice for a providing country to qualify facilitated access. That is because some countries might not even have the capacity to appropriate such results on their own.

To guard themselves against undesired eventualities, providers demanded the inclusion of come-back clauses in agreements for non-commercial use in exchange for facilitated access. A 'come-back' clause obliges the user of genetic resources and/or traditional knowledge associated with such resources to renegotiate the terms of the agreement if the intention –to restrict the use to non-commercial– changes after the physical access of the material or knowledge. These concerns are reflected in the Nagoya Protocol.

⁵³ According to G. Winter for example, results of basic research especially in genomics and microbial research are suitable for patenting. See 'Common Pools of Genetic Resources and Related Traditional and Modern Knowledge. An Overview', in: E.C. Kamau and G. Winter (eds), *Common Pools of Genetic Resources. Equity and Innovation in International Biodiversity Law* (London: Routledge, 2013), 3 at 22.

IV. Nagoya Protocol: Is all resolved?

Contracting Parties were required right starting from the CBD to organize access in a way that does not overburden users. Article 15.2 requires them to ‘... endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties ...’. They are also required ‘... not to impose restrictions that run counter to the objectives of this Convention’. Obviously Article 15.2 addresses the CBD Contracting Party that provides genetic resources.⁵⁴ Although it does not dispute the authority such a Party has under Article 15.1 to regulate access according to national law, it points to the corresponding obligation, albeit softly expressed, to undertake some measures in ‘favour’ of access for ‘environmentally sound’ uses. It also points to the need to show self-restraint in exercising that authority so as not to mar conservation of biological diversity and sustainable use of its components.

A simple reading of the provision leaves no doubt that basic biodiversity research qualifies for facilitated access. There is little though that can be talked about under the CBD in terms of the implementation of this provision. Probably one of the reasons which led to this result is the nature of the language used, ‘*Each Contracting Party shall endeavour ...*’. It suggests a wide discretion of Parties in deciding whether to facilitate access. But in addition, there was scarcely any follow-up work to clarify the vague language of the provision. For example, which conditions could Parties create to facilitate access? Which restrictions could be considered as running counter to the objectives of the Convention? What is to be understood by ‘environmentally sound uses’? Kamau (2009) tries to grapple with these questions a little bit⁵⁵ but we limit ourselves here to the question of facilitation. In his discussion he starts by rather asking, which factors could be considered as counteracting facilitation? He lists a number of such factors: lengthy and cumbersome procedures, high and multiple costs, overlapping procedures; long delays; vagueness of access requirements and procedures, and uncertainty. He therefore suggests that any measures that could be applied to ease or elimi-

⁵⁴ E.C. Kamau (2009), at 155. It should be noted that reference to a country as a provider does not mean that such a Party cannot be a user of genetic resources at the same time. The focus here should be more on how a Contracting Party should relate to other Contracting Parties when they request to access/use its genetic resources.

⁵⁵ See *ibid*, at 155ff.

nate such negative conditions could be considered as facilitation measures and lists the following examples:⁵⁶

- Issuance of a simple permit to enter an area and remove samples – instead of a complex ABS agreement – where access is meant for basic research. The person requesting permission to access must, however, sign a declaration agreeing to certain conditions, which may include an obligation to deposit samples of collected materials with a designated authority, an obligation to negotiate a full benefit-sharing agreement should the purpose of research and development change, or an obligation to obtain permission from the provider before passing the sample on to a third Party.

- Minimizing transaction costs involved in reaching an agreement between providers and users.

- Determination of administrative fees depending on the purpose of access. The fees could be set to decline gradually from a specific amount the more the purpose of research becomes basic.

- Easing application procedures by, for example, providing online services. This will enable potential users to get orientation, know the access requirements and assess the situation before they travel to the provider country.

- Providing a website with links to other permit applications with the possibility of completing applications online.

- Setting the shortest durations that can be adhered to between application and grant (fast track).

- Reducing the number of permits that an applicant may require as much as possible.

- Raising the level of certainty by ensuring that all legal and administrative requirements are based on legislation and new ones do not abruptly alter or replace old ones or in any way amend existing (intellectual) property law.

- Evaluating the procedure regularly, at least annually.

The other possible reason why the implementation of the facilitation requirement under Article 15.2 CBD was more a failure than success is because, user States lacked compliance

⁵⁶ Ibid, at 156f.

measures. For provider States to facilitate access, compliance measures in user States are equally critical in ensuring that their rights as reflected in terms and conditions of access agreements are respected and that users obey their obligations. That is the requirement of Article 15.7 CBD. For one reason or the other, the user States did not take their obligations seriously hence leaving this provision overwhelmingly unimplemented.⁵⁷ Since a state cannot exercise its jurisdiction in another state, provider countries were helpless once the resources left their territories. Even though some authors argued that obligations of ABS agreements could still be enforced in user countries without such user compliance measures,⁵⁸ the costs of a legal suit and process would often impede a provider country from accessing justice. The easier solution for many provider countries was hence trying to limit violations and abuses one-sidedly through strict legislations.⁵⁹ Notwithstanding limited user compliance measures, some provider countries have put special measures in place in order to facilitate non-commercial research (see examples in box 2). This is because they recognize that research which contributes to the conservation and sustainable use of the biodiversity offers many benefits.⁶⁰

Box 2: Examples of access legislation for non-commercial research

Brazil: Certain types of basic research and scientific activities are not subject to access authorizations when undertaken by authorized Brazilian researchers or research institutions (Biodiversity Law, Federal Law No. 13,123/2015”, of 20 May 2015 which repealed the old law, Provisional Measure No. 2,186/2001 of 23 August 2003. Federal Law 13,123/2015 entered into force on 17 November 2015).

Indonesia: There is a less costly online process to obtain access for non-commercial research projects of less than 30 days, and an even simpler process for Indonesian national researchers (current interim arrangements in expectation of Draft Law on Traditional

⁵⁷ Ibid, at 154.

⁵⁸ C. Godt, ‘Enforcement of Benefit-sharing Duties in User Countries, in: E.C. Kamau and G. Winter (eds), *Genetic Resources Traditional Knowledge and the Law* (London: Earthscan, 2009), 420-438; H. Isozaki ‘Enforcement of ABS Agreements in User Countries’, in: E.C. Kamau and G. Winter (eds), *Genetic Resources Traditional Knowledge and the Law* (London: Earthscan, 2009), 439-454.

⁵⁹ M.R. Muller, ‘Access Regime for Andean Pact Countries: Issues and Experiences’, in: J. Mugabe *et al.* (eds), *Access to Genetic Resources Strategy for Sharing Benefits* (Washington DC, USA: IUCN Environmental Law Centre & ACTS, Kenya & World Resources Institute, 1997), 187 at 198.

⁶⁰ T. Greiber *et al.* (2012), at 120.

Knowledge and Traditional Cultural Expressions (RUU PTEBT), Draft Law on Protection of Genetic Resources (RUU PSDG) 2012).

Australia: Permits are required for access to biological resources from a Commonwealth area. The online permit application system provides a facilitated process for access for non-commercial purposes as opposed to access for commercial/potentially commercial use (The Environment Protection and Biodiversity Conservation Regulations 2000).

Ethiopia: Ethiopian ABS legislation clearly differentiates between commercial and non-commercial research with a simplified permit application system for basic non-commercial research and for foreign university researchers working with an Ethiopian counterpart (Regulation no 169/2009 of Ethiopia's Access to Genetic Resources and Community Knowledge and Community Rights Proclamation Act 2006).

Ecuador: Domestic legislation distinguishes between access to genetic resources and access to biological resources, and there is a simplified procedure for non-commercial research (National Regulations implementing Decision 391 1996 of the Andean community).

Source: T. Greiber, S.P. Moreno, M. Åhrén, J. Nieto Carrasco, E.C. Kamau, J.C. Medaglia, M.J. Oliva and F. Perron-Welch in cooperation with N. Ali and C. Williams, *An Explanatory Guide to the Nagoya Protocol on Access and Benefit-sharing* (IUCN, Gland, Switzerland, 2012), at 120f.

The Nagoya Protocol has come up with a number of innovations targeted at resolving the standoff between providers and users of genetic resources. While reaffirming the sovereign rights of States over their natural resources and the ensuing authority to determine access to genetic resources, the Protocol obliges each Party to take concrete measures in order to facilitate access.⁶¹ Article 6.3, for example, lists a number of measures that must be taken by Parties when access is subject to PIC. Parties must provide legal certainty, clarity and transparency of domestic ABS legislations and regulatory requirements. They must provide fair and non-arbitrary procedures on accessing genetic resources. Likewise, they must provide information on how to apply for prior informed consent. In addition, they must establish

⁶¹ Article 6.1, 3 NP.

clear rules and procedures for requiring and establishing mutually agreed terms, including terms on subsequent third party use and changes of intent. The nature of these and other measures foreseen in the Nagoya Protocol will bring great relief also for non-commercial research.

Nonetheless, the discussions leading to the adoption of the Protocol underlined the importance of certain sectors and their operational difficulties to cope with restrictive ABS requirements. This led to the inclusion of a separate provision, Article 8, giving a special regime to those sectors, i.e. non-commercial research; emergency cases related to human, animal or plant health; and genetic resources for food and agriculture.

The distinct needs of non-commercial research and the concerns of providing countries *vis-à-vis* the possible change of intent of the initial focus of the research are addressed under Article 8 (a) NP. It requires Parties to

Create conditions to promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, including through simplified measures on access for non-commercial research purposes, taking into account the need to address a change of intent for such research.

Thus, the article is comprised of two underlying messages: the need to create conditions to promote and encourage research for the public domain by providing simplified access rules for research of a non-commercial nature; and the need to address a situation where the initial intent deviates from the MAT at the time of access. The latter can be done through renegotiation of PIC and MAT. Can it be considered that with this innovation the Nagoya Protocol has resolved all the challenges affecting non-commercial research?

It is certainly too early to make any conclusions as the Nagoya Protocol only entered into force in October 2014 and many countries are still in the process of implementation. There are therefore barely any empirical records of post Nagoya Protocol experiences concerning the treatment of non-commercial research. However, many Parties are currently undertaking proactive measures to ensure compliance with the Protocol. For example, 177 interna-

tionally recognized certificates of compliance have been issued following the entry into force of the Nagoya Protocol⁶² in compliance with Article 6.3 (e).⁶³ However, they relate to both non-commercial and commercial research. In addition, they have been issued by only 12 countries⁶⁴ out of 105 that have ratified the Protocol (including the EU)⁶⁵ most of the certificates (110) having been notified by India.⁶⁶ The existing records therefore cannot be taken as representing a global picture of the situation. Hopefully, it will gradually be evident which direction we are heading to.

It is expected though that in spite of the binding nature of Article 8 (a), domestic measures implementing this article will have varying approaches. First, Parties seem to have a wide discretion to decide which action to undertake.⁶⁷ It is up to them to decide which conditions they can create to promote and encourage research which contributes to conservation and sustainable use of biological diversity. Second, the language is very vague and some Parties might have difficulties deciding which conditions to create and outlining their extent. Even the suggested 'simplified measures' for non-commercial research, as a possible action, are still very vague.

It could have been useful for the Intergovernmental Committee on Nagoya Protocol to develop guiding material to assist Parties in implementing such vague provisions. Such guidance would be helpful in ensuring that a certain level of uniformity, thoroughness and effectiveness is achieved. Some of the suggested facilitation conditions above that were proposed for Article 15.2 CBD, and restrictions to be avoided, can still be used also in this case.

On changes in intent, the language used in the provision, '*... taking into account the need to address a change of intent for such research*', is very weak and non-committal. Again, interested Parties will have to address this concern by establishing mutually agreed terms on a case-by-case or individual approach. The common suggestion up-to-date has been to include a come-back clause in the ABS agreement. This approach has also been used in practice by some countries, e.g. Australia.⁶⁸

⁶² As at 22 May 2018. See www.cbd.int.

⁶³ Read together with Article 17.2-4.

⁶⁴ See www.cbd.int. (accessed 22 May 2018).

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ T. Greiber *et al.* (2012), at 119.

⁶⁸ See G. Burton, 'Australian ABS Law and Administration – A Model Law and Approach', in: E.C. Kamau and G. Winter (eds), *Genetic Resources, Traditional Knowledge and the Law* (London: Earthscan, 2009), 272-308. Australia does not require an access permit for non-commercial research but a statutory permit signed by the

V. Assessment and prospects for basic scientific research

On a general note, the reluctance of provider countries to relax access conditions in the past has been aggravated by a lack of compliance measures in user countries. The resulting burden not being choosy has affected both commercial and non-commercial research. Of course, as already said, more hindered by this is non-commercial research. The Nagoya Protocol has now taken users to task by requiring them to take concrete compliance measures including those foreseen under Articles 15 – 18.

Article 15 requires each Party to take legislative, administrative or policy measures to comply with domestic ABS legislations or regulatory requirements. Such measures should: 1) Ensure that genetic resources utilized within the jurisdiction of a user state were accessed in accordance with PIC and that MAT were established. This should be in accordance with domestic law or regulatory requirements of the Party providing such genetic resources. 2) Address situations of non-compliance. The article also requires Parties to cooperate as far as possible and as appropriate in cases of alleged violation of ABS legislations or regulatory requirements.

Article 16 contains similar obligations as Article 15 albeit it is addressed to traditional knowledge associated with genetic resources.

Article 17 requires each Party to take measures in order to monitor and enhance transparency about utilization of genetic resources. The article includes a non-exhaustive list of measures that Parties shall take, including designation of one or more checkpoints. Designated checkpoints are required to collect or receive relevant information related to PIC, source of genetic resources, establishment of MAT and/or utilization of genetic resources, including from internationally recognized certificates. Based on such information, a checking agency can establish whether domestic legislation was complied with.

Monitoring can be complicated by the fact that genetic resources move downstream through a long and complex process of research and development. Article 17 requires that checkpoints ‘... should be relevant to the utilization of genetic resources, or to the collection of relevant information at, *inter alia*, any stage of research, development, innovation, pre-commercialization or commercialization’. The involvement of such checkpoints at different

research committing himself/herself not to use the genetic material for commercial research or transfer it to a third party. The researcher also makes a commitment to deliver (regular) reports. If the intent changes later to commercial, the researcher is required to ‘come back’ and negotiate as well as sign a new agreement.

stages should help to keep track of the movement of genetic resources down the research and development process thus mitigating the monitoring challenge. Checkpoints also have a duty to communicate any information collected or received by them to relevant national authorities, to the Party providing prior informed consent and to the ABS Clearing-House, without prejudice to the protection of confidential information. Such information includes situations of non-compliance and measures taken to address them.

Articles 18.2 and 18.3 are likewise important for compliance. The former requires Parties to ensure that an opportunity to seek recourse is available under their legal systems in cases of disputes. The latter require them to ensure justice is accessible and mechanisms for recognition and enforcement of foreign judgments and arbitral awards are available.

Although much criticism can still be made about compliance measures foreseen in the Nagoya Protocol,⁶⁹ these and other measures meant to support compliance should change the atmosphere by far, if seriously implemented. The approach is a big turn from the 'information blockade' situation that existed before the NP.

Among other positive achievements, it lays the basis for establishing communication between providers and users through relevant national authorities and checking agencies and brings justice nearer to providers. There is optimism that these measures will prompt providing States to relax access conditions in general.

However, specific attention will still be needed for non-commercial research, especially research which contributes to conservation and sustainable use of biological diversity. This is because even the provision set aside to deal with the special needs of such research does not oblige Parties to waive prior informed consent. That means that 'conditions to promote and encourage' or 'simplified measures' can still be offered within a PIC procedure. That is not to say that a PIC procedure must always be so complex. Nevertheless, a PIC procedure can never be equated to a waiver. Most likely than not, it will still involve a process that is likely to strain basic biodiversity/scientific research. All in all, the proper implementation of access measures including the obligations under Article 6.3 is expected to ease access tremendously. In return, this should contribute to the success of compliance measures. Further facilitation for non-commercial research will depend on the approach and extent of implementing measures under Article 8 (a).

⁶⁹ See for example E.C. Kamau, B. Fedder and G. Winter (2010), at 256f.

Conclusion

Does the benefit-sharing objective compromise the conservation and sustainable use of biodiversity? It is difficult to answer this question in one word, or even in one sentence. The CBD was concluded as a deal to balance the obligation and burden of conservation and sustainable use of biodiversity against the benefits derived from its use. Such benefits can be monetary or non-monetary. They were considered not only a means to promote biodiversity conservation and sustainable use activities but also to offset the expenses incurred for that course. The Convention, however, did not explicitly state how such benefits should be dispensed. Whereas that might be encroaching to the sovereign rights of States, maybe some guidance could have been helpful. Besides, it created a framework of access and benefit sharing that was complex to implement. In addition, the CBD took on board a second focus besides the conservation and sustainable use of biodiversity, i.e. the socio-economic dimensions intertwined with conservation and sustainable use of biodiversity. By itself it is not a bad idea: compensating States and communities for investments made to conserve biodiversity and seeking to improve their welfare from the value of biodiversity is only fair and just. But trying to reconcile environmental and socio-economic objectives in one instrument might have weakened its ability to effectively address concerns related to the conservation and sustainable use of biodiversity.

The consequences of the CBD's approach and shortcomings are manifold, but this article has focused mainly on two. One, all eyes went to money thus blinding provider countries to the fact that non-commercial biodiversity research produces many non-monetary benefits. The laws that were made to implement the ABS framework by providers of genetic resources had an underlying goal to ensure that benefits of commercial use, in particular monetary ones, were shared with them by users of such resources. That resulted in very stringent laws and requirements which are burdensome and prohibiting to non-commercial biodiversity research. Two, many of the provisions of the CBD are either vague, have a very weak legal language or accord too much discretion to Parties. Just to reiterate the issue of monetary benefits, the benefit-sharing obligation was seen as an opportunity to raise funds for general budgetary expenditures because there was no limit to the discretion on how the benefits shared can be used. If the CBD had bargained for a fixed percentage of benefits that must be used in conservation, or bind the benefits to concrete conservation targets, proba-

bly the role of monetary benefits could have been enhanced and more interest in non-commercial biodiversity research raised.

Concerning compliance on the user side, the same weaknesses meant that nothing was so compelling to users to put in place effective measures or share benefits. As a result, there are barely any examples of monetary benefits that can be considered as being able to make a long-term impact on biodiversity conservation. The greatest impact in this regard continues being that made by non-commercial biodiversity research.

The Nagoya Protocol has introduced innovations for implementing the benefit-sharing objective of the CBD in a way that is capable of impacting positively on biodiversity conservation and sustainable use. Such innovations include its attempt to link benefit sharing with conservation and sustainable use of biodiversity and its demand for measures that create legal certainty, transparency, fairness, non-arbitrariness, clear procedures and strict compliance. In addition, it asks Parties to create conditions to facilitate access to genetic resources for research which contributes to the conservation and sustainable use of biological diversity and for other non-commercial research purposes. However, the Protocol has also inherited much of the weaknesses of the CBD, for example, it gives extremely generous discretion to Parties and it often uses weak and vague legal language. The impact the ABS regime can make on conservation and sustainable use of biodiversity would depend on the implementation approach individual States will employ in implementing the Nagoya Protocol. It is advised that national access measures accord special treatment to non-commercial (non-profit) research while implementing the Protocol. Non-commercial research generates new scientific insights on multiple levels, from genetic composition of biological resources to related functions. This is one of the fundamental preconditions for the conservation and sustainable use of biological diversity. Likewise, it is one of the preconditions for appreciation of the value of the diversity of genetic resources. Finally, countries that provide access to their biodiversity for non-commercial research may derive a range of non-monetary benefits, including training or a better understanding of their genetic resources.