Introduction to the International Framework for Access and Benefit-Sharing:

Promoting ABS-compliant use of plant genetic resources in research and development

A Darwin Initiative project implemented by BGCI and the Ethiopian Biodiversity Institute

Introduction to the International Framework for Access and Benefit-Sharing:

Promoting ABS-compliant use of plant genetic resources in research and development

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Published by Botanic Gardens Conservation International

Recommended citation: Davis, K. 2019. Introduction to the International Framework for Access and Benefit Sharing. Botanic Gardens Conservation International, Richmond, UK

DARWIN INITIATIVE

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Acknowledgements

This resource is one result of a three year project undertaken in partnership with the Ethiopian Biodiversity Institute (EBI). We are most grateful to the support provided by our colleagues in EBI Tesfaye Awas and Ashenafi Ayenew, together with the whole team from the EBI ABS Directorate and the members of the project's National Steering Committee. We thank also all those researchers and *ex situ* collection holders from Ethiopia who participated so actively in our stakeholder consultations and training courses and generously shared their knowledge and views with us.

We are also grateful for the advice and guidance provided to the wider project by its International Advisory Committee – Fouad Bergigui, Kathryn Garforth, Michael Halewood and Hartmut Meyer – as well as Hewan Demissie, Chris Lyal and Tonye Mahop Marcelin for reviewing our policy recommendations, and all of the people and institutions that provided practical examples of ABS implementation for the BGCI ABS webpages and BGjournal special ABS issue as part of this project.

The author is grateful for support from Suzanne Sharrock and Tim Hodges in the development of this training tool, and inspiration from prior collaborations with China Williams.

The project is funded by the Darwin Initiative of the Department of the Environment, Food and Rural Affairs, United Kingdom.

Acronyms and abbreviations

ABNJ	Areas beyond national jurisdiction
ABS	Access and benefit-sharing
ABSCH	Access and Benefit-Sharing Clearing House
BGCI	Botanic Gardens Conservation International
CBD	Convention on Biological Diversity
CGIAR	(formerly) Consultative Group on International Agricultural Research
CHM	Clearing House Mechanism
CITES	Convention on International Trade in Endangered Species of Fauna and Flora
CNA	Competent National Authority
COP	Conference of the Parties
COP-MOP	Conference of the Parties serving as Meeting of the Parties
DNA	Deoxyribonucleic acid
EBI	Ethiopian Biodiversity Institute
EU	European Union
FAO	Food and Agriculture Organisation
GEF	Global Environment Facility
GR	Genetic resources
IARC	International Agricultural Research Centre
IPLCs	Indigenous peoples and local communities
IRCC	Internationally Recognised Certificate of Compliance
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MAT	Mutually Agreed Terms
MLS	Multilateral System
MTA	Material Transfer Agreement
NFP	National Focal Point
NP	Nagoya Protocol
PGRFA	Plant Genetic Resources for Food and Agriculture
PIC	Prior Informed Consent
SBI	Subsidiary Body on Implementation
SBSTTA	Subsidiary Body on Science, Technology and Technological Advice
SCBD	Secretariat of the Convention on Biological Diversity
SMTA	Standard Material Transfer Agreement
TK	Traditional Knowledge

Introduction

At a time of global environmental change, population growth and economic development there is an increasing demand for genetic resources, both for local exploitation and for research and development. At the international level, the utilisation of plant genetic resources is predominantly governed by three multilateral treaties: the Convention on Biological Diversity (CBD), the Nagoya Protocol (NP) to the CBD, and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Researchers and *ex situ* collection holders are key stakeholders in the chain of custody of plant genetic resources for research, but the level of awareness amongst these groups of the national and international frameworks governing access to material and sharing the benefits from utilisation is often low.

From 2016 to 2019, with funding from the UK Government's Darwin Initiative, Botanic Gardens Conservation (BGCI) and the Ethiopian Biodiversity Institute (EBI) implemented a project on promoting the ABS-compliant use of plant genetic resources in research and development in Ethiopia.

As part of the project, a number of consultations were held with researchers and *ex situ* collection holders, during which the international and Ethiopian frameworks for access and benefit-sharing (ABS) were introduced and discussed. During these consultations, it became clear that these stakeholders would benefit from having access to a suite of teaching tools on ABS, to help build understanding and capacity amongst their colleagues and students.

This resource has therefore been developed to provide an easily understandable introduction to the international framework for access and benefit sharing with regard to plant genetic resources. The resource can be used as a self-learning tool, but its format, as a presentation with teaching notes, is primarily designed to facilitate peer-to-peer information exchange and capacity building. This resource forms part of a larger suite of teaching tools, which also includes more detailed guidance on ABS implementation for researchers and collection managers and a set of quiz questions and practical scenarios for testing learning and understanding.

We hope that the whole ABS learning package will provide a useful and flexible resource to support ABS implementation and through this, promote the ABS-compliant use of plant genetic resources in research and development.

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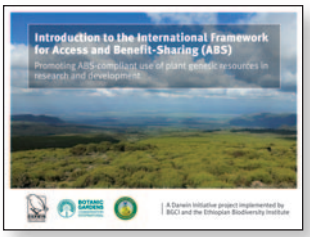

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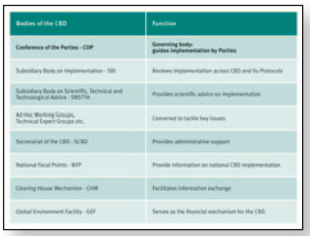

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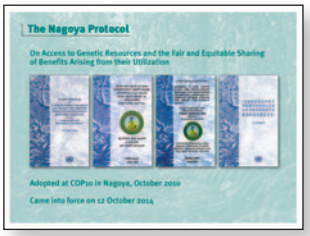

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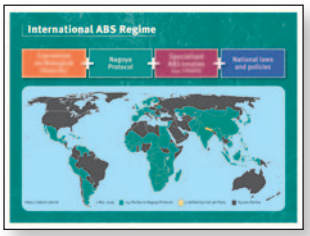

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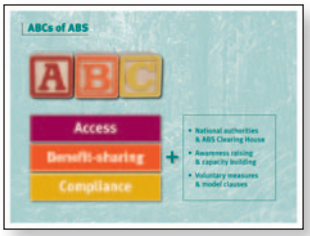

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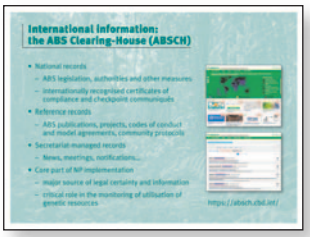

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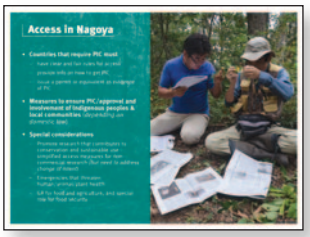

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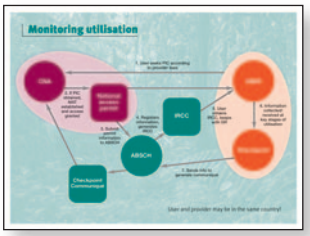

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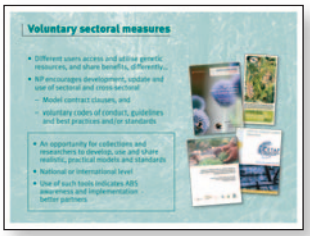

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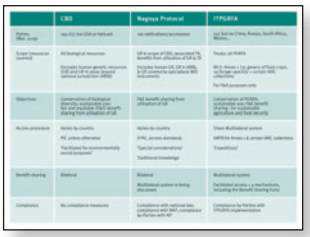

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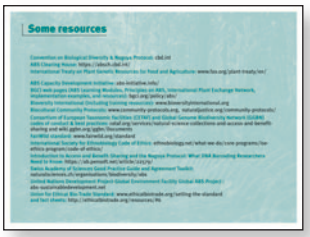

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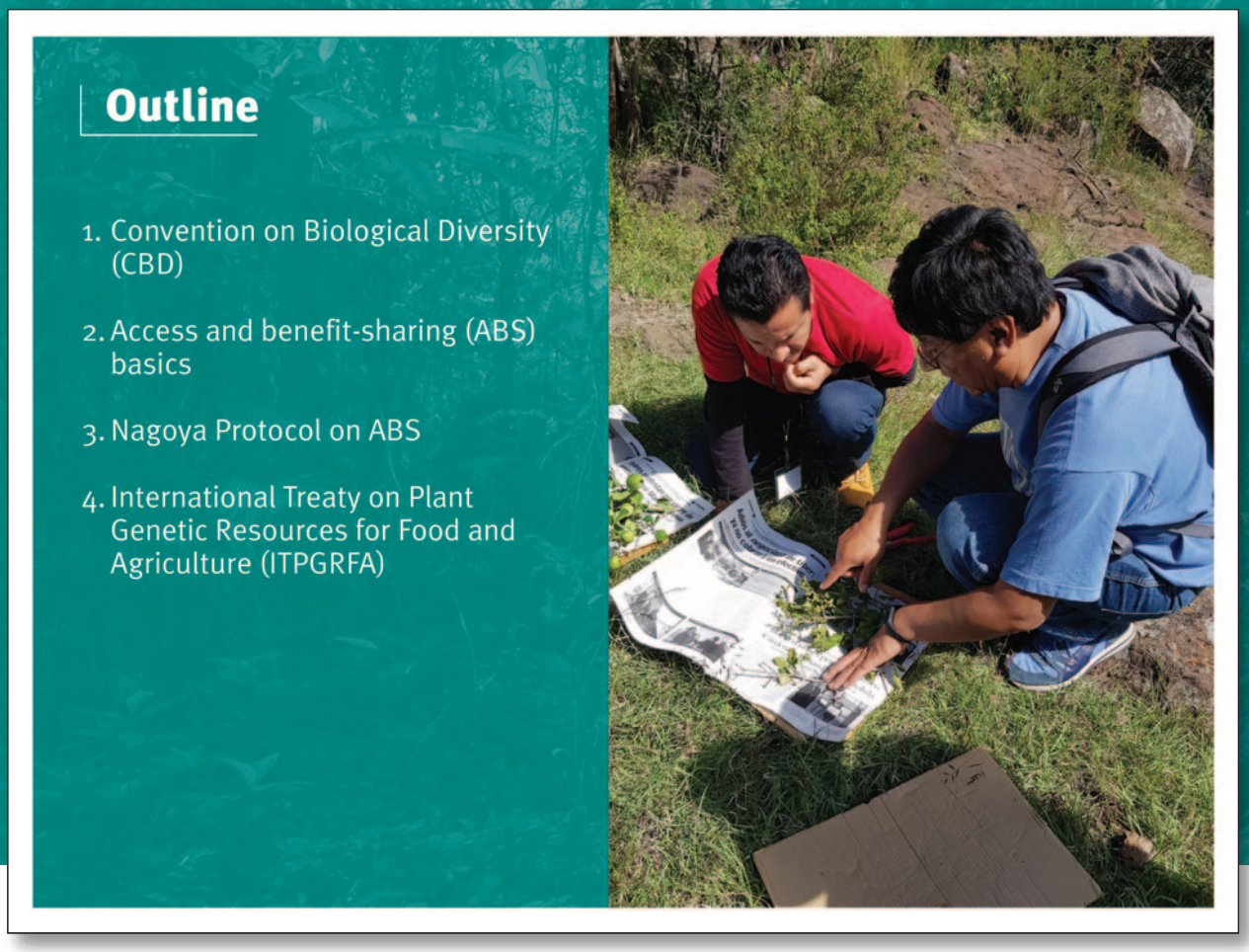

Outline

This presentation is divided into 4 main sections. The first section provides an introduction to the Convention on Biological Diversity and how it operates at the international and national level. The next section introduces the access to genetic resources and benefit-sharing (ABS) provisions of the CBD, and highlights some of the issues that arose as countries started to implement them.

The third section of the presentation introduces the Nagoya Protocol on ABS, describing its scope and key provisions that countries must implement at national level. Here, the ABCs of ABS (access, benefit-sharing and compliance) are highlighted.

The final part of the presentation introduces the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) – a specialised treaty that takes a different approach to ABS for agricultural crops.

ICARDA Terbol

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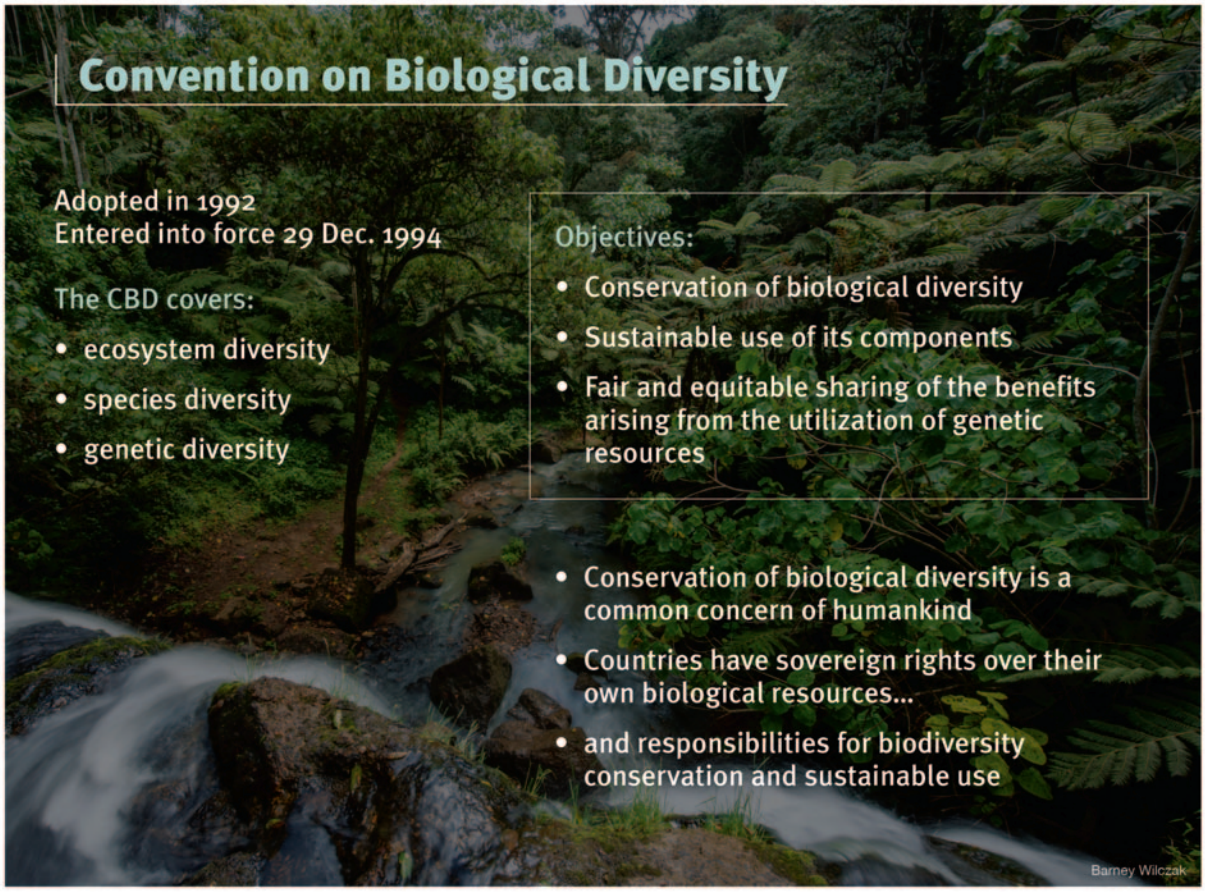

Convention on Biological Diversity

The Convention on Biological Diversity represents a commitment from the nations of the world towards three objectives: conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

'Biological diversity' includes diversity within species, between species, and of ecosystems.

The treaty was adopted at the Rio Earth Summit in 1992, entered into force on December 29th 1993, and now has almost universal ratification: only the United States of America (an original signatory to the Convention) and the Holy See (the Vatican) are not Parties to the CBD. A Party to a treaty is a country that has ratified or acceded to that treaty.

The CBD reaffirms that conservation of biodiversity is a common concern to humankind, but that countries have sovereign rights over the biological resources within their boundaries, and also responsibilities for biodiversity conservation and sustainable use.

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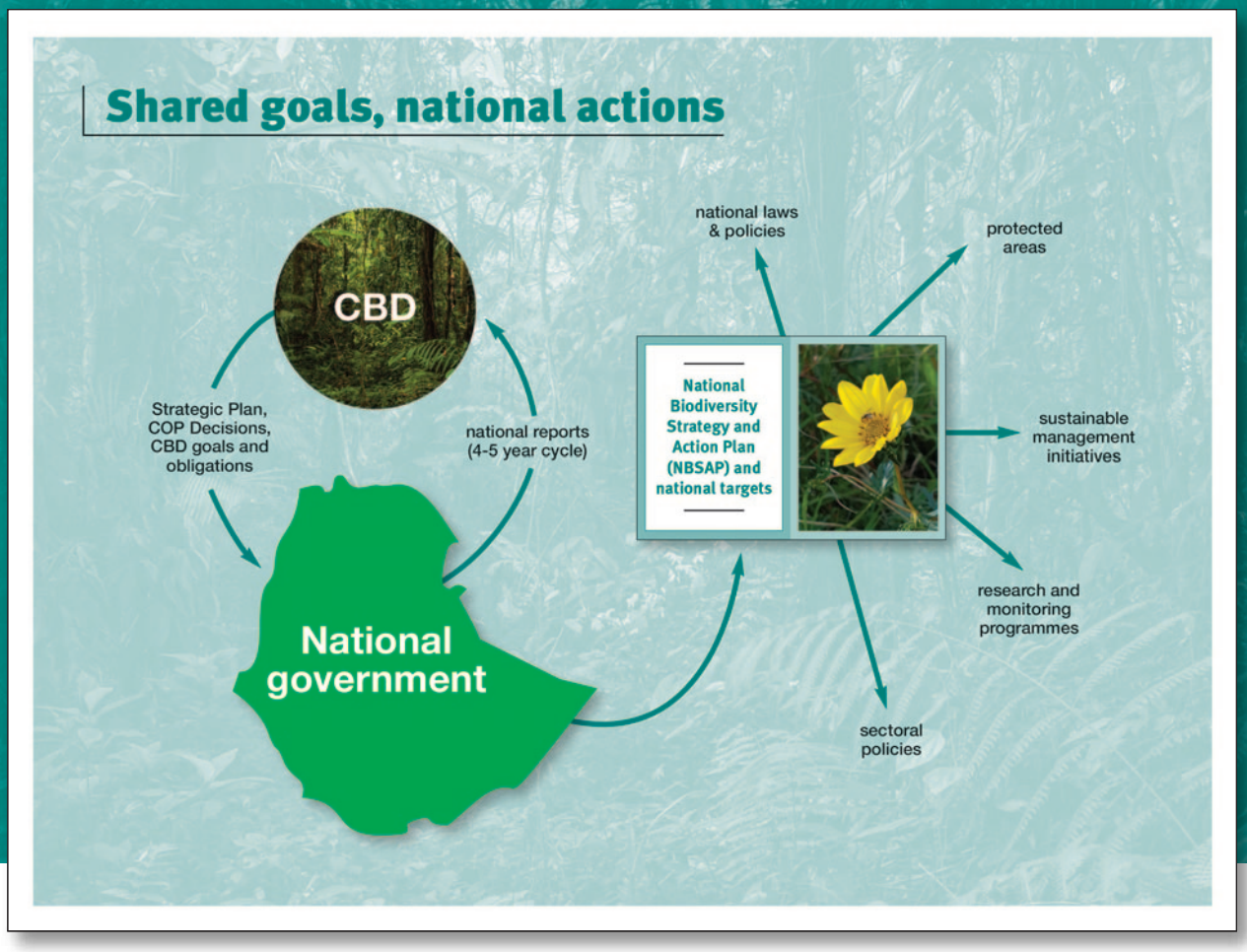

Shared goals, national actions

All Parties share certain common goals and obligations, outlined in the CBD text, the CBD's current Strategic Plan 2011-2020 with its Aichi targets and various Conference of the Parties (COP) Decisions - but each determines its own actions at a national level. Each country develops its National Biodiversity Strategy and Action Plan (NBSAP), taking into account the CBD's Strategic Plan, to integrate conservation and sustainable use actions into national decision-making. Countries may take a range of different approaches, for example developing new national laws or putting the focus on sectoral actions.

Countries report back to the Conference of the Parties via their National Reports, on a 4-5 year cycle, and these reports are posted on the CBD website.


Chris Thorogood

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Bodies of the CBD	Function
Conference of the Parties - COP	**Governing body: guides implementation by Parties**
Subsidiary Body on Implementation - SBI	Reviews implementation across CBD and its Protocols
Subsidiary Body on Scientific, Technical and Technological Advice - SBSTTA	Provides scientific advice on implementation
Ad Hoc Working Groups, Technical Expert Groups etc.	Convened to tackle key issues
Secretariat of the CBD - SCBD	Provides administrative support
National Focal Points - NFP	Provide information on national CBD implementation
Clearing House Mechanism - CHM	Facilitates information exchange
Global Environment Facility - GEF	Serves as the financial mechanism for the CBD

Bodies of the CBD

The CBD functions through the actions of various international and national bodies.

The Conference of the Parties is the governing body of the CBD. It meets about every two years. The COP makes decisions to further guide the implementation of the CBD. Decisions are made by consensus.

The Subsidiary Body on Implementation reviews and strengthens implementation across the CBD and its Protocols, the Nagoya Protocol on Access and Benefit-Sharing and the Cartagena Protocol on Biosafety – both subsidiary agreements under the CBD. The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA, pronounced 'substa') brings together scientific experts to develop recommendations for the COP. Ad hoc working groups, technical expert groups and/or online fora may be established to work through complex key issues. These various bodies report to the COP. Observers may attend most CBD meetings.

The Secretariat of the CBD provides administrative support. It prepares for and services COP and other meetings and coordinates with other international bodies. Its core budget is funded by contributions from donor parties. The Clearing House Mechanism (CHM) facilitates information exchange on different national and international measures. It is essentially the CBD website and a network of national-level CHMs.

At the national level, each country establishes one or more National Focal Points (NFP) to provide information and communicate with the SCBD and stakeholders. In addition to a primary NFP, other NFPs may be nominated for specific functions, for example the CHM or SBSTTA.

The Global Environment Facility (GEF) serves as the major financial mechanism for implementation of the CBD and four other environmental conventions. Around 30 donor countries provide funds, which are disbursed in 4-year cycles according to priorities for those rounds.

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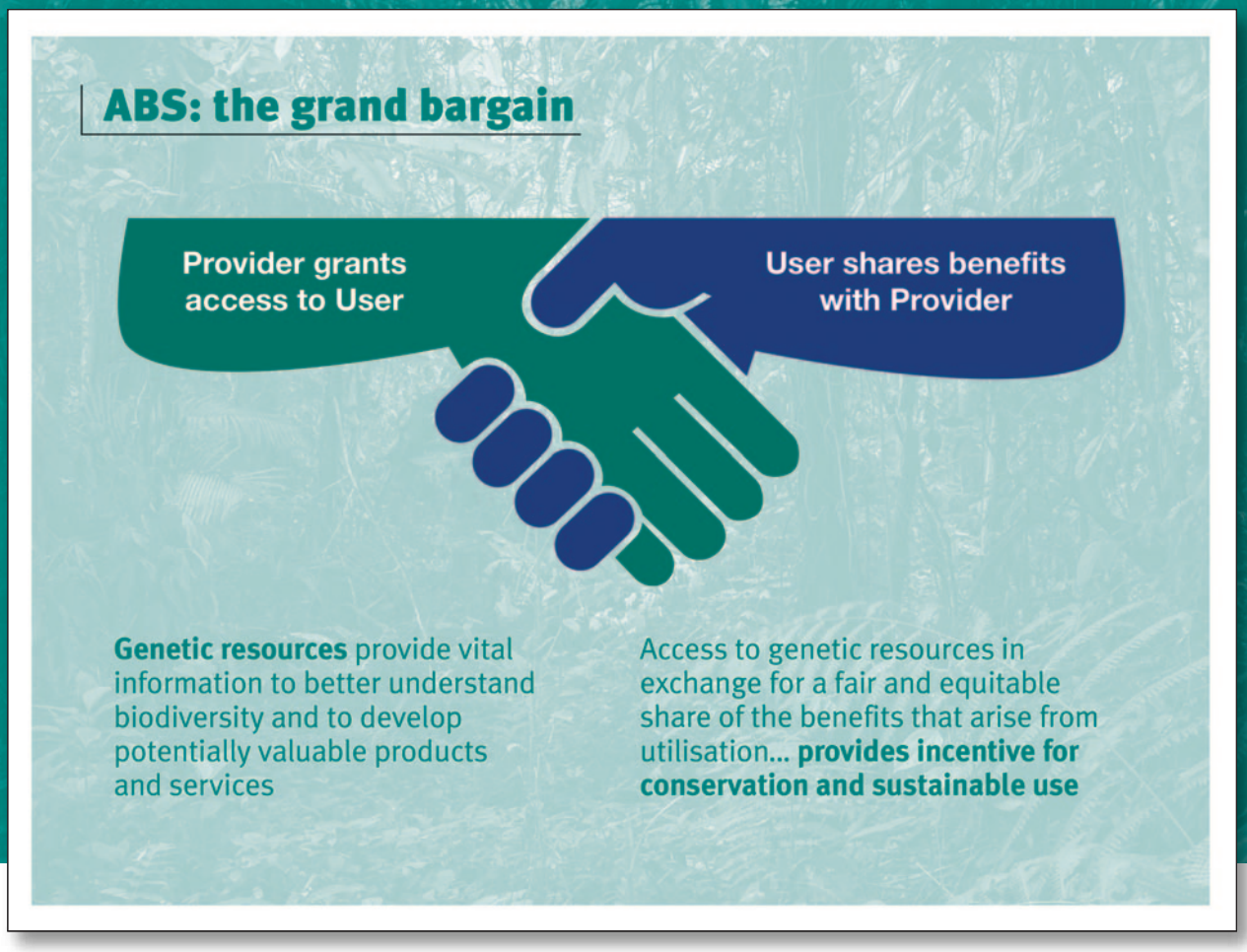
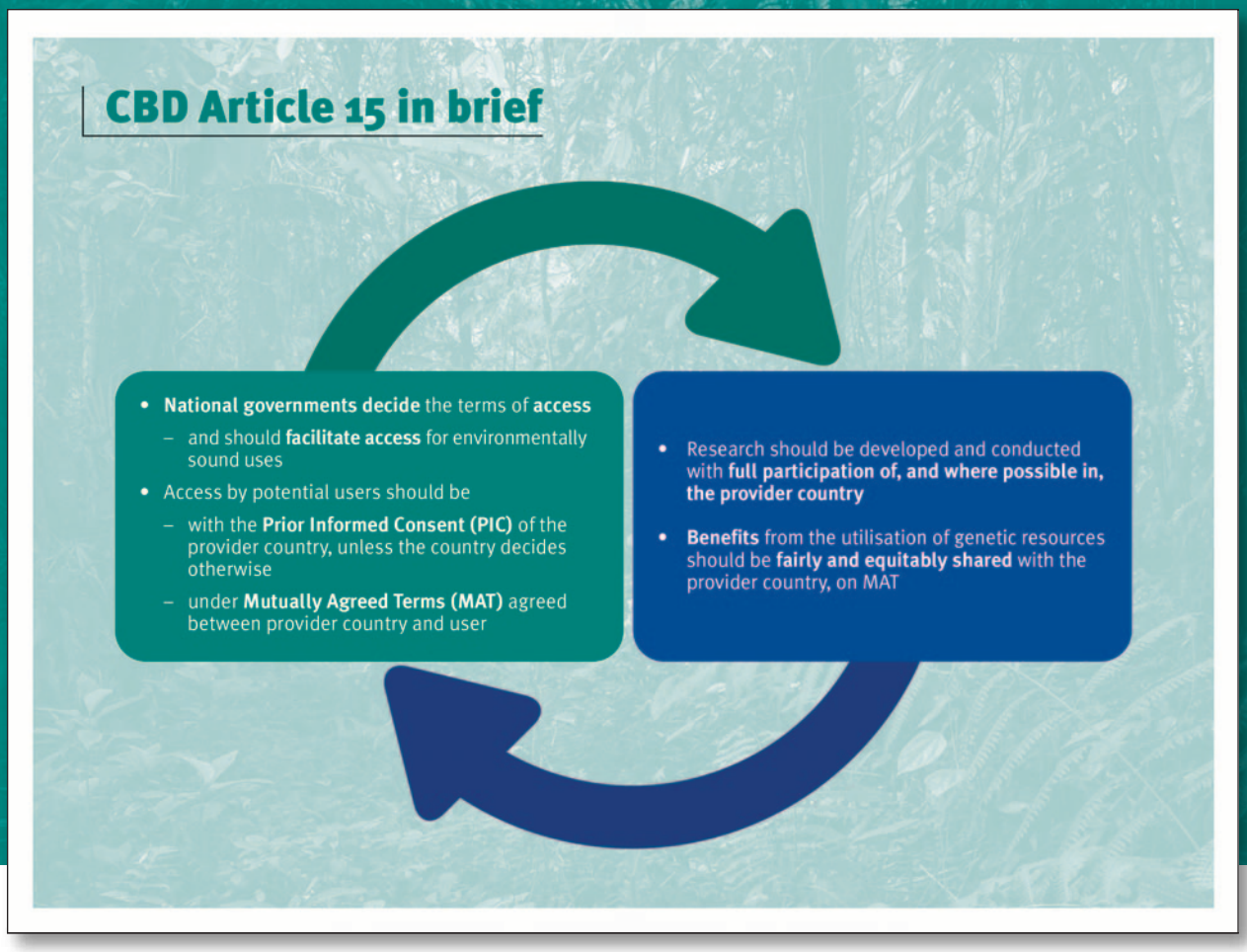


ABS: the grand bargain

Fair and equitable sharing of the benefits arising from the utilisation of genetic resources is the third objective of the CBD, and the CBD would not have been adopted by nations without it. It is thus often called the 'Grand Bargain'.

Biodiversity is not equally distributed among countries, and nor is financial wealth. Genetic resources provide information that can be used to develop potentially lucrative products and services, as well as to understand and support nature conservation.
If countries grant access to their genetic resources, and users share the benefits of utilisation of these resources fairly and equitably with such providers, this creates an incentive for countries to conserve and sustainably use their biodiversity, and may help to address the opportunity costs of refraining from unsustainable resource exploitation.



CBD Article 15 in brief

Article 15 of the CBD sets out the framework for this relationship between providers and users. The text of the article is simplified here.

National governments have the authority to determine how genetic resources may be accessed. They should facilitate such access where the use is environmentally sound.

Access by potential users should be with the 'prior informed consent' (PIC) of the provider country, unless that country decides otherwise. Access should be under 'mutually agreed terms' (MAT) agreed between the provider country and the user.

A 'provider country' is the country of origin, or a country that has acquired the genetic resources in accordance with the Convention (that is, with appropriate PIC and MAT, depending on national laws).

The CBD emphasises that research should be developed and conducted with the full participation of, and where possible in, the provider country provider country.

And benefits arising from utilisation of genetic resources should be shared fairly and equitably with the provider country, according to the mutually agreed terms.

Benefit sharing appears in other CBD articles too, in terms of access to and transfer of technology, exchange of information, technical and scientific cooperation, and benefits arising from utilisation of Indigenous people's and local communities' traditional knowledge, innovations and practices.

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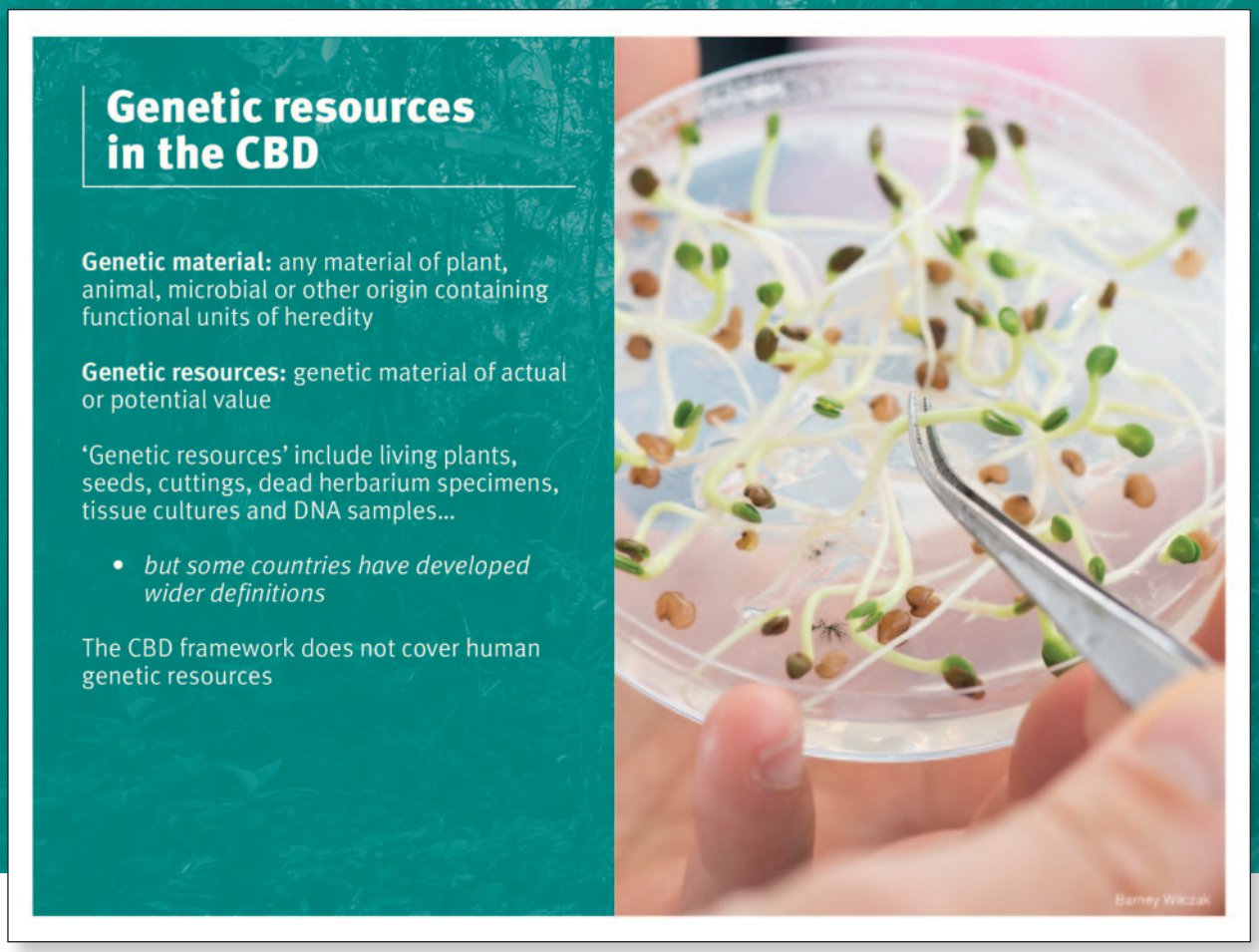

Genetic resources in the CBD

The CBD provides definitions of genetic material and genetic resources.

- Genetic material: any material of plant, animal, microbial or other origin containing 'functional units of heredity';
- Genetic resources: genetic material of 'actual or potential value'.

When the CBD was negotiated back in the 1980s and early 1990s, 'functional units of heredity' was broadly understood to mean genes, in a form that could be reproduced (e.g. in a living cell). Science and technology has developed to the point where we understand that non-coding areas of the genome are also important, and we can extract DNA from old, dead specimens and use sequence information in databases for a growing range of research purposes, from taxonomy to crop improvement to synthetic biology.

Most CBD policymakers and scientists would now agree that the term 'genetic resources' would cover anything that contains DNA: for example living plants and seeds but also dead specimens, tissue cultures and DNA samples. There is currently a debate between countries as to whether intangible genetic information itself (e.g. DNA sequence data) should be considered a genetic resource under the CBD.

However, all countries have agreed that the CBD framework does not cover human genetic resources.

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Some issues...

We have described the CBD's provisions on access to genetic resources and benefit-sharing, and its definition of genetic resources, but many things remained unclear in the CBD text. No definitions or processes were suggested for PIC, MAT, access or fair and equitable benefit-sharing.

Countries have sovereign rights over their resources, so each decides how it will implement the CBD, but countries also differ in their interpretations of its wording. In particular, there are still major differences in how countries interpret the term 'access'. Depending on where you live, you may think of access as meaning essentially acquisition (much of Europe and North America), or perhaps you focus on the research or genetic component of the word (many Latin American countries), or perhaps it includes a wider range of activities (many African countries).

Despite the CBD providing a definition of genetic resources, many countries have also developed their own wider definitions, which may include biochemical derivatives that do not include DNA (such as oils or proteins), or genetic information itself.

Right after the CBD came into force, a range of countries began to develop diverse access laws. In this early phase of ABS implementation, it was not always clear how to obtain legal access, nor was there certainty for providers that users would comply with providers' laws and MAT once out of the country. The CBD was also largely silent on how traditional knowledge associated with genetic resources should be accessed from Indigenous peoples and local communities.

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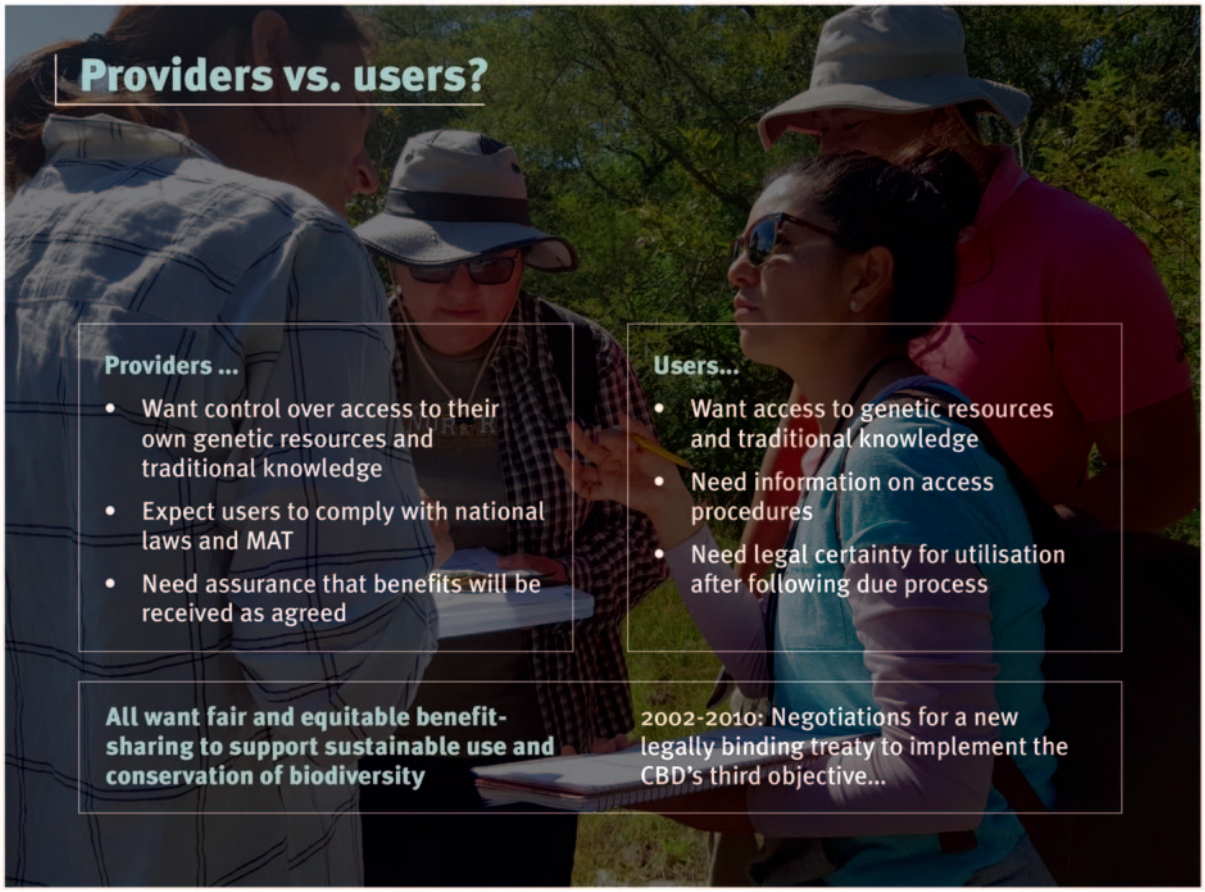

Providers vs. users?

Voluntary guidelines were adopted to help providers and users to implement PIC and MAT and benefit-sharing concepts, but providers in particular felt that only a new legally-binding international treaty could ensure compliance with their laws.

Key needs and wants were – and are still – clear. Providers have a right to control access to their own genetic resources and traditional knowledge, but they need users to comply with national laws and with mutually agreed terms, and they need assurance that benefits will be shared, even if the user takes the resources out of the country.

And users wanting access genetic resources and associated traditional knowledge need to know how to obtain access, and they need legal certainty for their utilisation when they have followed due process.

It is to everyone's advantage for benefits to be shared fairly and equitably, in a way that supports sustainable use and conservation of biodiversity.

Negotiations towards a new legally binding treaty on ABS began in 2002.

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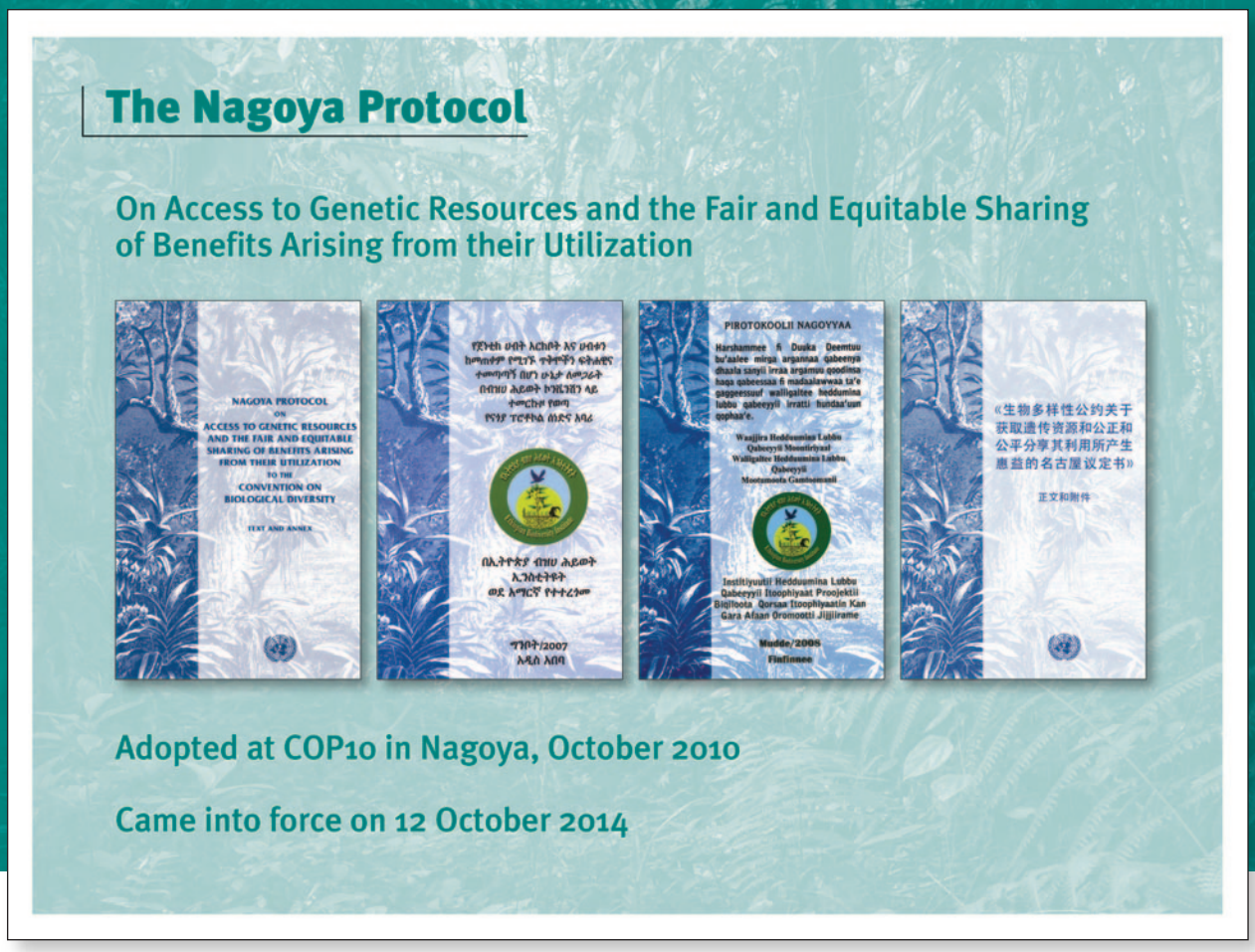


Kate Davis

The Nagoya Protocol

After 8 years of negotiation, the Nagoya Protocol was finally adopted at COP10 in Nagoya, Japan in October 2010.

It came into force on 12th October 2014, after its ratification by 50 countries.

It is legally-binding. Parties to the Protocol must implement its provisions at national level by taking legislative, administrative or policy measures.

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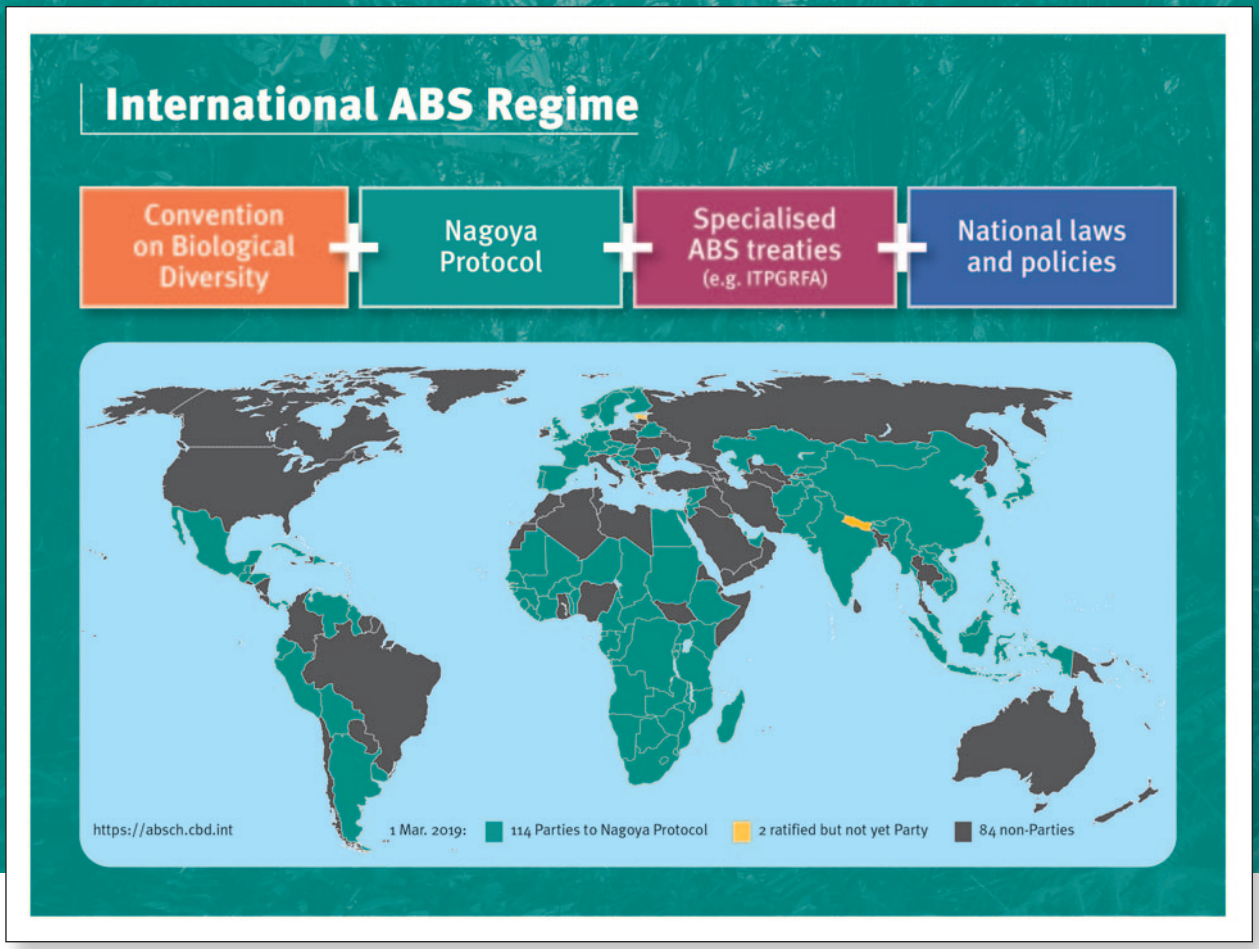

International ABS regime

The Nagoya Protocol is part of a larger international ABS regime, made up of the CBD's provisions on ABS (Article 15 and the other articles addressing benefit-sharing), the Protocol, certain other treaties that address ABS for particular resources and circumstances (such as the International Treaty on Plant Genetic Resources for Food and Agriculture), and national ABS-related laws, policies and other measures.

Ratification is open to countries that are Parties to the CBD. You can find the most up-to-date information on its ratification and implementation via the ABS Clearing House, at https://absch.cbd.int.

The governing body of the Protocol is called the Conference of the Parties serving as the Meeting of the Parties (COP-MOP) to the Nagoya Protocol. Where there are joint meetings with the (CBD) COP, decisions on the Nagoya Protocol may only be made by Nagoya Parties.


Ben Jones

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Nagoya objective

The objective of the Nagoya Protocol is: the fair and equitable sharing of benefits arising from the ***utilisation*** of genetic resources,

including by ***appropriate access*** to genetic resources and appropriate transfer of technologies, taking into account ***all rights*** over those resources and to technologies and by appropriate funding,

thereby contributing to the conservation of biological diversity and the sustainable use of its components.

This link back to conservation and sustainable use has its own article in the Protocol, which states: 'the Parties shall encourage users and providers to direct benefits arising from the utilisation of genetic resources towards the conservation of biological diversity and the sustainable use of its components'.

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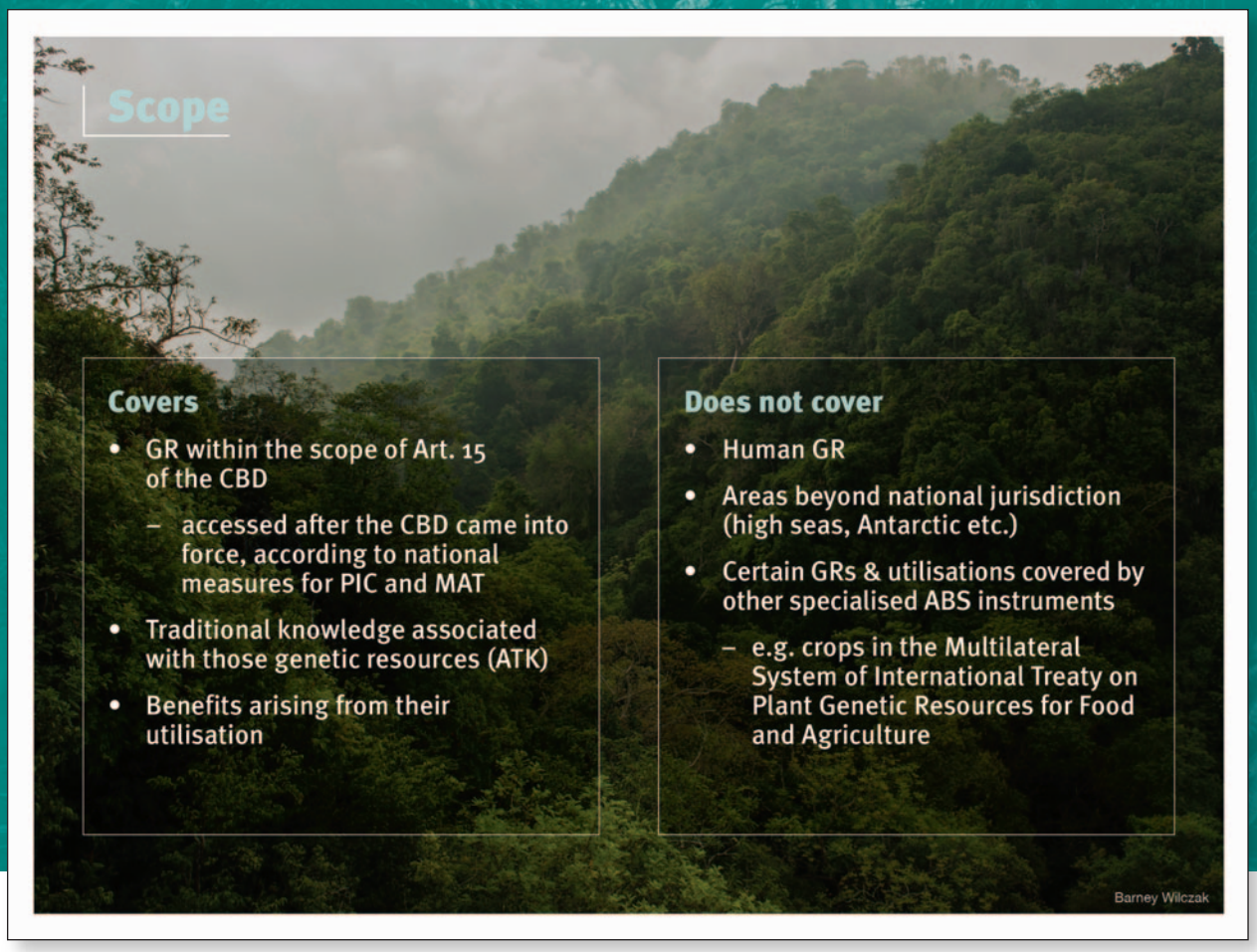
Utilisation: trigger for benefit-sharing

Utilisation of genetic resources is the trigger for benefit-sharing in both the CBD and Nagoya Protocol. The Protocol now provides a definition of **utilisation**: 'to conduct research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology'.

The Protocol also defines '**biotechnology**' as 'any technological application that uses biological systems, biodiversity, living organisms or derivatives thereof, to make, modify products or processes for specific use', and '**derivative**' as 'a naturally occurring biochemical compound resulting from the genetic expression or metabolism of biological or genetic resources, even if it does not contain functional units of heredity'.

Nagoya 'utilisation' is not designed to apply to commodity uses where there is no research or development on the genetic or biochemical conservation of a genetic resource. In a bio-trade value chain, several stages may covered by national ABS laws (such as the need to consider when, and whose, PIC is needed to access the resources involved, and with whom benefits should be shared) – but actual 'utilisation' might take place only at the stage of product research and development.

It is possible that a country's ABS law will apply to a range of uses in addition to 'utilisation', or even that countries will interpret this Nagoya definition differently, depending in part on how the country interprets 'research' and 'development' as they apply to 'genetic resources'! Providers and users should always seek information on each other's national interpretations and laws.



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Scope

The Nagoya Protocol applies to:

- Genetic resources within the scope of Article 15 of the CBD – in other words, accessed after the CBD came into force, according to national measures for PIC and MAT;
- Traditional knowledge (TK) associated with those genetic resources; and
- Benefits arising from the utilisation of genetic resources and associated TK.

It does not apply to:

- Human genetic resources;
- Genetic resources found in areas beyond national jurisdiction, where national sovereignty does not apply (such as the high seas);
- Certain genetic resources in particular circumstances where there is a specialised ABS instrument that is supportive of the CBD, 'for the Party or Parties to that specialised instrument in respect of the specific genetic resource covered by and for the purposes of the specialised instrument'.

Countries are still debating what the criteria for such a 'specialised international ABS instrument' should be, but many would consider that the Protocol should not cover crops in the Multilateral System of the FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) when they are exchanged and used for food and agriculture purposes between Parties to that treaty. We will come to the ITPGRFA later.

As already mentioned, the Nagoya Protocol also is not intended to apply to commodity uses.

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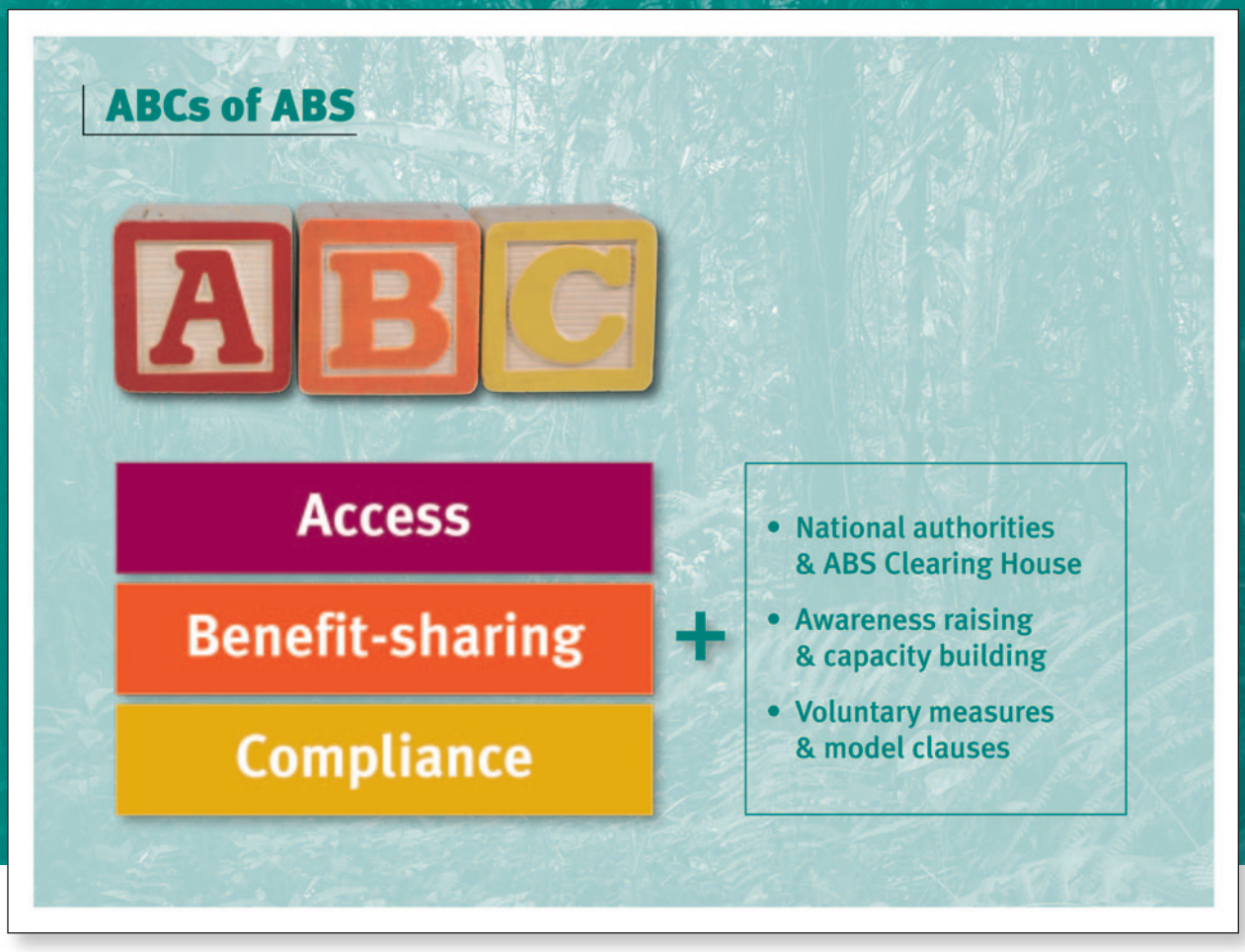

The ABCs of ABS

One way to summarise the core content of the Nagoya Protocol is to focus on the 'ABCs of ABS': **access**, **benefit-sharing** and **compliance**.

To implement these ABCs, the Protocol also relies upon national bodies and an international clearing-house, voluntary sectoral measures, and awareness raising and capacity-building measures.

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National authorities

Each Party must designate:

- **National Focal Point on ABS**
  - Information on procedures for obtaining PIC
  - Information on national access legislation
  - Information on national authorities, Indigenous Peoples and Local Communities (IPLCs) and stakeholders
- **Competent National Authority/ies**
  - Grant access or issue evidence that access requirements have been met
  - Advise on procedures for gaining PIC and establishing MAT

National authorities

The Protocol provides for several ABS information sources and authorities, at national and international levels.

At the national level, each Party must designate:

- a **national focal point on ABS**, to make information available on procedures for obtaining PIC, national access legislation, and national authorities, Indigenous peoples and local communities and stakeholders, and

- one or more **competent national authorities**, responsible for granting access or issuing evidence that access requirements have been met, and advising on procedures for gaining PIC and establishing MAT.

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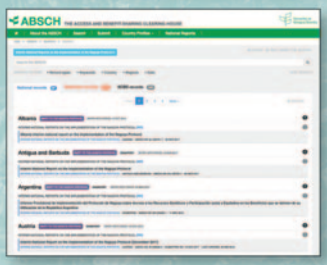
International information: the ABS Clearing-House (ABSCH)

- National records
  - ABS legislation, authorities and other measures
  - internationally recognised certificates of compliance and checkpoint communiqués
- Reference records
  - ABS publications, projects, codes of conduct and model agreements, community protocols
- Secretariat-managed records
  - News, meetings, notifications...
- Core part of NP implementation
  - major source of legal certainty and information
  - critical role in the monitoring of utilisation of genetic resources



https://absch.cbd.int/

International information: the ABS Clearing-House

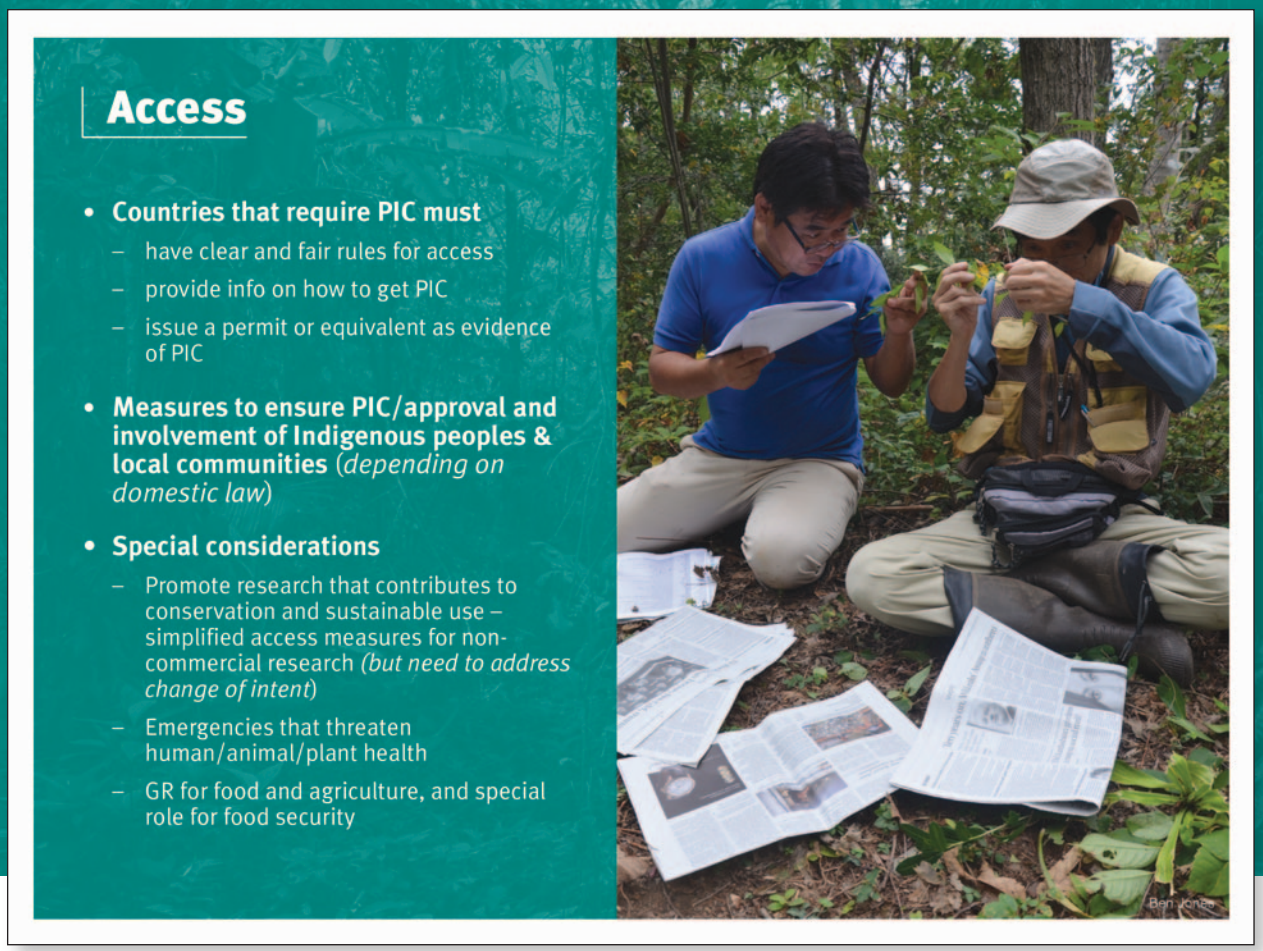
At the international level, the **ABS Clearing-House (ABS-CH)** hosts information on a wide range of measures.

Parties are obliged to make certain national records available, such as information on national focal points, competent authorities and national ABS legislation, as well as checkpoints, internationally recognised certificates of compliance and checkpoint communiqués – we will say more about these later.

There is also space for other ABS actors to post reference records, for example on ABS projects, codes of conduct, model agreements, community protocols and ABS-related publications and training tools. The CBD Secretariat manages other records on the ABS Clearing-House, such as notifications, meeting information and news items.

The ABS Clearing-House is a core part of Nagoya Protocol information. The national legislative measures posted provide information for legal certainty and information, and the certificates and communiqués posted play a central role in the monitoring of utilisation of genetic resources.

SLIDE 19



Access

Returning to the ABCs: A is for Access.

Countries have sovereign rights, and can decide whether or not to require PIC for access. However the Nagoya Protocol establishes certain standards that a country must follow if it chooses to require PIC for access. Access legislation should provide legal certainty and transparency and provide for a written decision by the Competent National Authority in a cost-effective manner, within a reasonable period of time. Countries must provide information on how to apply for PIC, and provide evidence ('a permit or equivalent') of the decision to grant PIC and the establishment of MAT. MAT should be set out in writing.

Regarding Indigenous peoples and local communities, countries are to set out criteria and/or processes for obtaining their PIC (or approval and involvement) for access to genetic resources, and take measures to ensure associated traditional knowledge is accessed with their PIC (or approval and involvement), and with MAT – according to domestic law.

The Protocol addresses three situations that require special consideration for access: non-commercial research that supports conservation, emergencies that threaten human, animal or plant health, and the vital role of agricultural genetic resources for food security.

Regarding non-commercial access, the Protocol requires Parties to create conditions to promote and encourage research that contributes to the conservation and sustainable use of biodiversity, including through **simplified measures on access for non-commercial research purposes** – but taking into account the need to address a change of intent for such research. These measures are helpful but non-commercial researchers must be alert to any change in use towards commercial purposes.

Countries have adopted a range of simplified measures for non-commercial research, including: exemption from ABS laws; using a declaration rather than authorisation process; lower or waived access fees; fewer or simpler benefit-sharing negotiations; and/or no requirement for monetary benefit-sharing.

SLIDE 20

Benefit-sharing

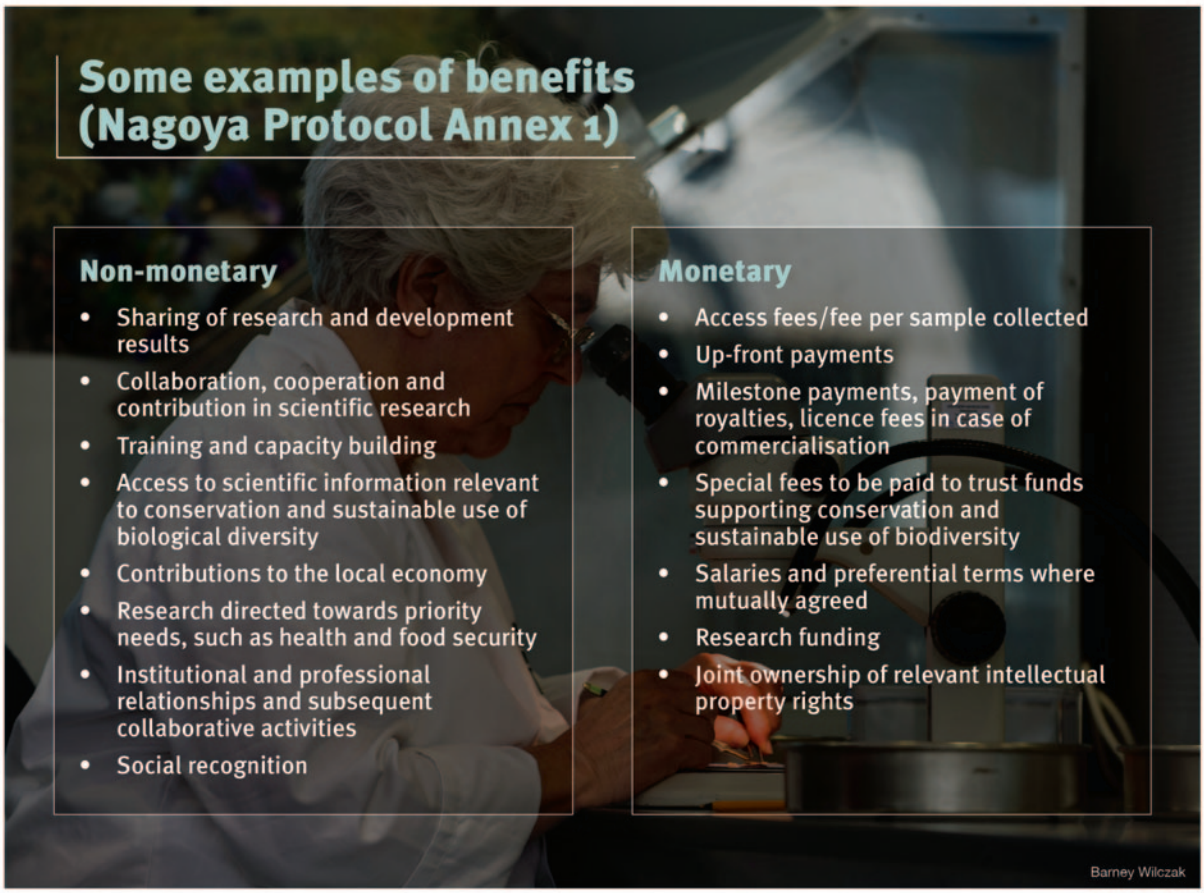
B is for benefit-sharing. The Nagoya Protocol, like the CBD, takes a bilateral approach to benefit-sharing, but provides more detail and guidance. It recognises that benefits might be non-monetary or monetary or both.

All Nagoya Parties need to take measures so that benefits arising from utilisation as well as subsequent applications and commercialisation are shared fairly and equitably with the provider country, on MAT, and with Indigenous peoples and local communities in accordance with their established rights over genetic resources under the country's legislation, also on MAT.

Countries also need to take measures so that benefits arising from utilisation of associated traditional knowledge are shared fairly and equitably with the Indigenous peoples and local communities that hold the knowledge, again on MAT (and in accordance with domestic law).

The Protocol also makes space for the potential development of a multilateral system for benefit-sharing, which could allow benefits to be shared in transboundary situations, or when it was not possible to obtain PIC and MAT - for example, where the original provider country was not known, or did not have ABS measures in place at the time. Benefits collected could be directed to global conservation and sustainable use. Countries are currently debating whether this mechanism is necessary and how it might work.

SLIDE 21



Some examples of benefits (Nagoya Protocol Annex 1)

An annex to the Protocol provides an indicative list of monetary and non-monetary benefits. This slide summarises some of the suggestions on the list. Important non-monetary benefits include the sharing of research and development results; scientific collaboration and contribution; training and capacity-building; and professional relationship-building.

Note that important shareable benefits often arise through the process of collaboration, rather than as a final monetary result of research and development.


Barney Wilczak

SLIDE 22

Compliance: the teeth of the Protocol

C is for compliance. Compliance is at the core of the Nagoya Protocol, and is the main driver for its development and uptake. Compliance takes three forms in the Protocol.

First, compliance with domestic legislation or regulatory requirements on ABS: countries must introduce measures to ensure that genetic resources and associated traditional knowledge that that are utilised within their jurisdiction have been accessed according to the provider country's national laws (with appropriate PIC and MAT if required), and they must address situations of non-compliance. We will expand on this kind of compliance shortly.

One example of a compliance measure is European Union Regulation (EU) No. 511/2014, which sets out rules and measures to support the legal (according to provider access laws) utilisation of genetic resources and associated traditional knowledge in EU Member States.

Second, compliance with mutually agreed terms, such as contracts: Parties are not required to 'look inside' the MAT, to check that users have complied with the precise terms (compliance with contracts is covered by contract law), but they must encourage users and providers to include dispute resolution measures in their MAT. They are also required to ensure that there is an opportunity to seek recourse under their legal systems if a dispute does arise, and to take measures regarding access to justice. The importance of developing effective, unambiguous, enforceable contracts between the right parties cannot be underestimated.

Finally, compliance with the Nagoya Protocol itself: Parties are obliged to implement the provisions of the Protocol.

SLIDE 23

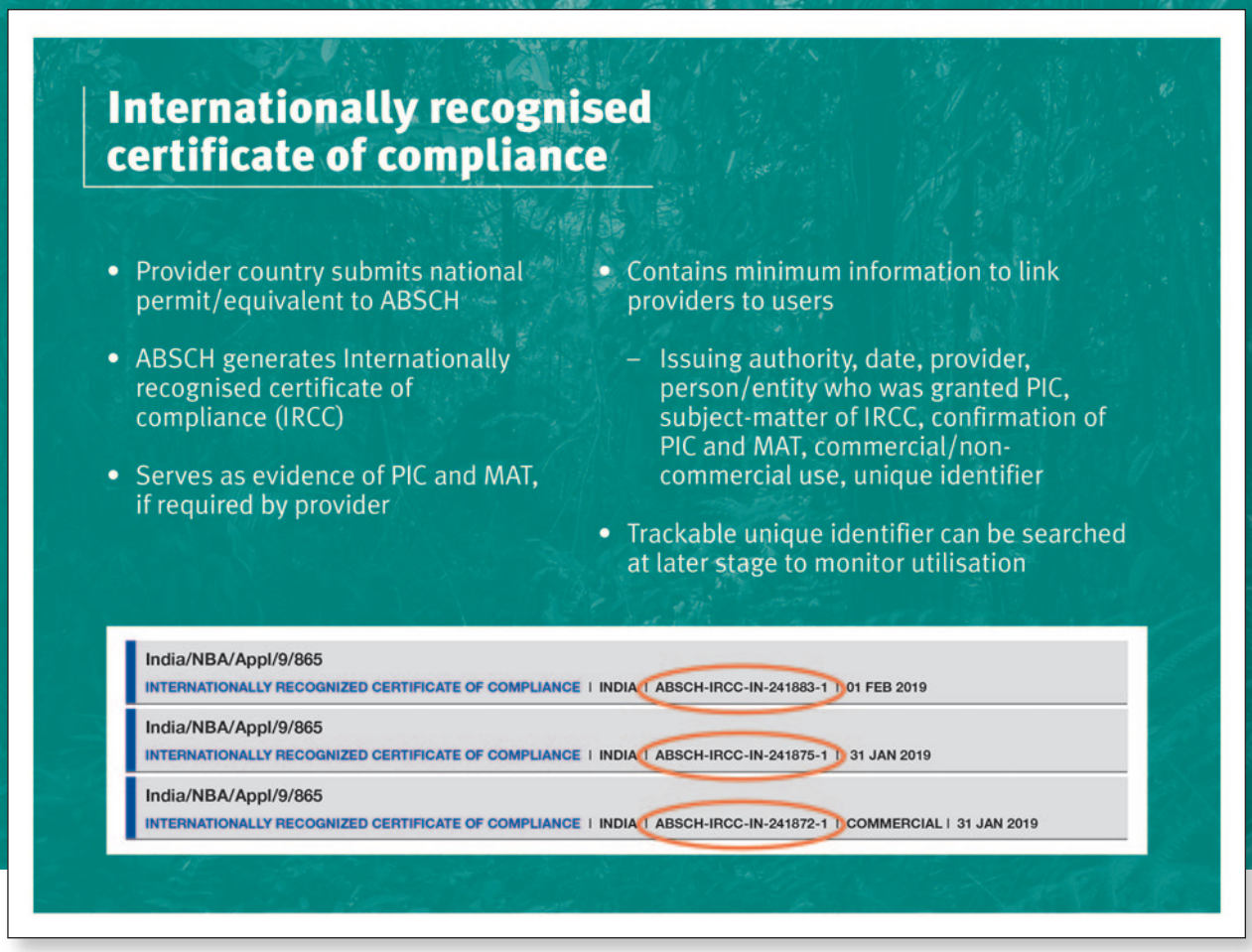
Monitoring utilisation

To support compliance, especially compliance with national ABS laws, the Protocol requires its Parties to take measures to monitor utilisation of genetic resources.

Each country must appoint 'checkpoints', and countries that require PIC and MAT must issue a permit or equivalent to show that access was granted. This permit can be used to create an 'internationally recognised certificate of compliance'. These measures feed into, in effect, an international system that supports the monitoring of utilisation, using the ABS Clearing-House.


André Obermüller

SLIDE 24



Internationally recognised certificate of compliance

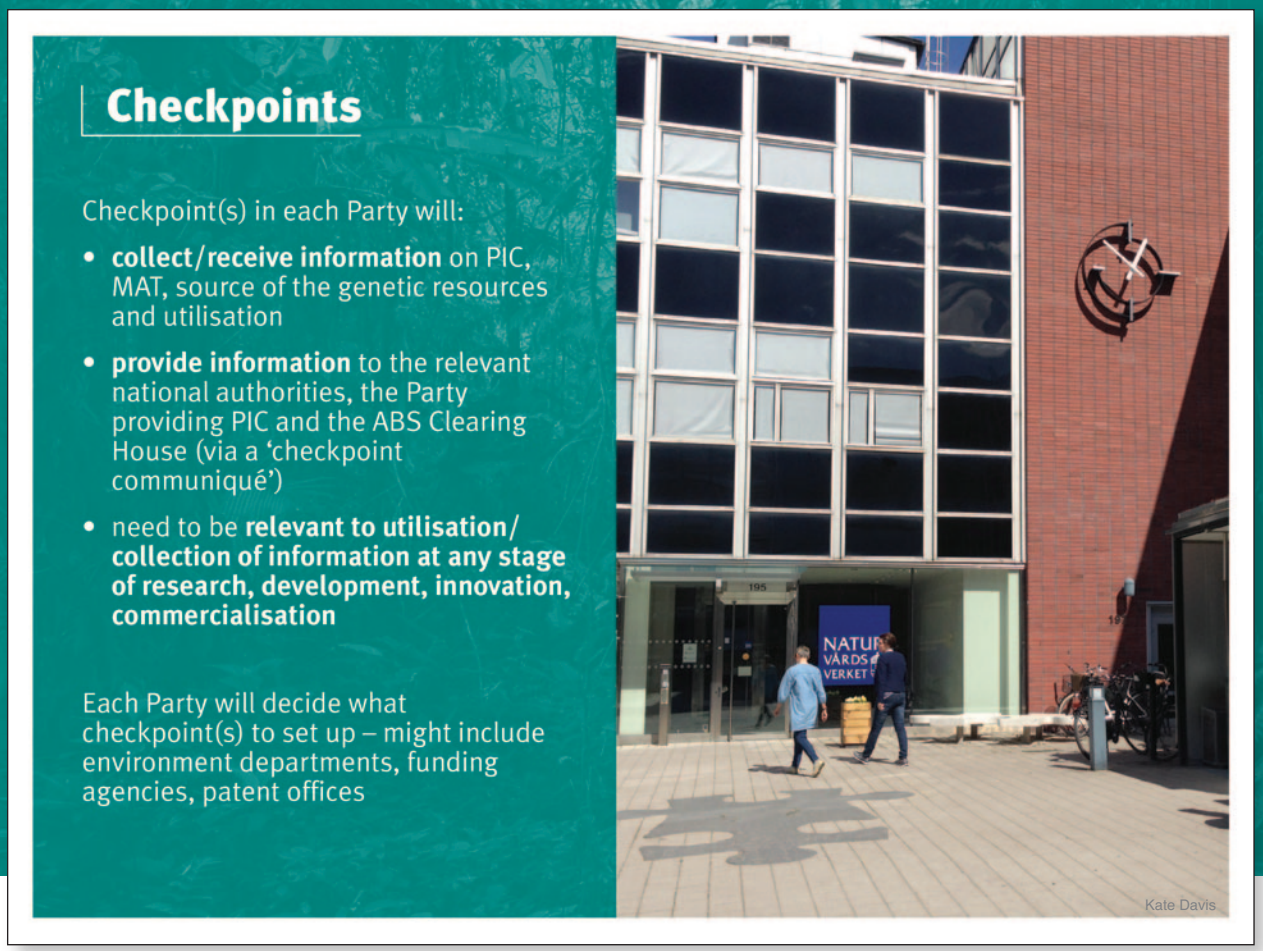
When a provider country submits its national permit (providing evidence that the user followed national access procedures) to the ABS Clearing House, an internationally recognised certificate of compliance (IRCC) is generated.

The IRCC must contain certain minimum information, to link providers, users, genetic resources and future utilisation. The minimum information includes the names of the issuing authority, the provider and the person or entity that was granted PIC, the date of issuance, the subject matter or genetic resources covered by the permit, and whether the genetic resources will be used for commercial and/or non-commercial use.

Importantly, each IRCC also has a trackable unique identifier (an alphanumeric code), which must be kept with the genetic resource or associated information as it is utilised or transferred. This IRCC number can be searched at a later stage to monitor utilisation.

Countries are gradually adapting their access processes to collect appropriate information in their national permits and generate IRCCs via the ABS Clearing-House.

SLIDE 25



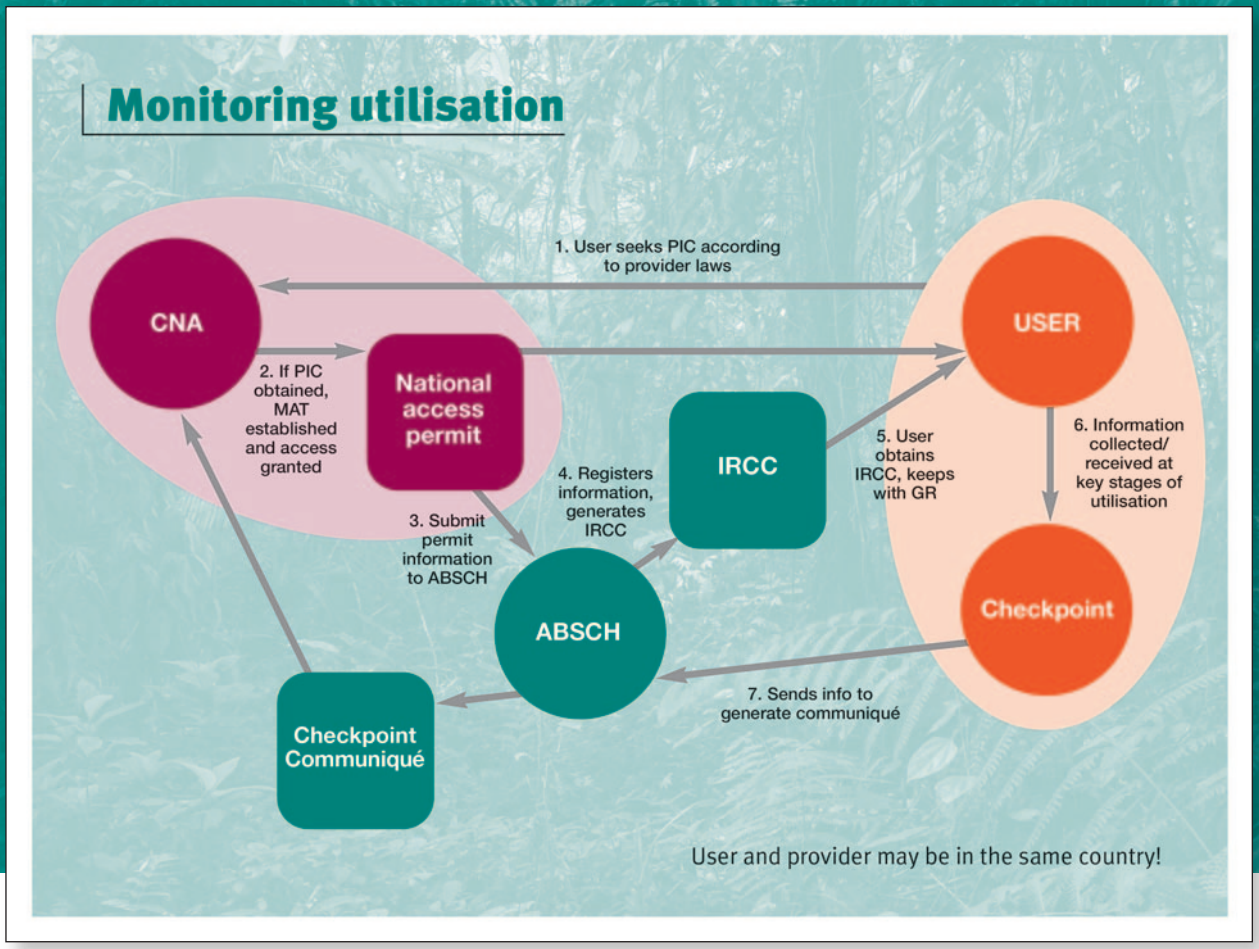
Checkpoints

Each country must designate one or more checkpoints. These checkpoints must collect or receive information from users related to PIC, establishment of MAT, the source of the genetic resources and/or to the utilisation of genetic resources. Internationally recognised certificates of compliance are important sources of such information.

The checkpoint provides information to the relevant national authorities, to the Party providing PIC and to the ABS Clearing-House, as appropriate. The checkpoint may provide a summary of the information received to the ABS Clearing-House in the form of a checkpoint communiqué.

Countries each decide on what kind of checkpoints to establish. A checkpoint should be relevant to the utilisation of genetic resources or to the collection of relevant information at any stage of research, development, innovation, pre-commercialisation or commercialisation. Countries have so far designated a wide range of different bodies as checkpoints, including environment departments, funding agencies and national patent offices.

SLIDE 26



Monitoring utilisation

1. A user contacts the Competent National Authority (CNA), seeking to obtain PIC and establish MAT according to the provider country's laws.

2. After the user follows the appropriate processes, the CNA grants access and provides a national access permit to the user. The user can now access and utilise the genetic resource, but does not have the internationally recognised certificate of compliance (IRCC) until…

3. The CNA submits the national permit information to the ABS Clearing-House (ABSCH)

4. The ABSCH registers the information and generates the IRCC (with its unique IRCC identifier).

5. The user obtains this information from the CNA and/or the ABSCH, and must keep it linked to the genetic resource through any use or transfer.

6. At certain key stages of utilisation, the user provides information (including the IRCC identifier) to a national checkpoint.

7. The checkpoint registers this information on the ABSCH, generating a checkpoint communiqué, which also goes to the country providing PIC.

Although we tend to assume that users are located in another country, of course this system may also be applied to domestic users.

The ABS Clearing-House also generates unique identifiers for competent national authorities, checkpoints, checkpoint communiqués and other documents that it hosts.

SLIDE 27

Indigenous peoples and local communities

The Nagoya Protocol recognises the interrelationship between genetic resources and traditional knowledge (TK), the importance of TK for conservation and sustainable livelihoods, and existing rights and customary laws of Indigenous Peoples and local communities.

The Protocol requires that countries take measures in order that TK associated with genetic resources is accessed with the PIC or approval and involvement of the Indigenous peoples and local communities holding the knowledge, and that benefits from utilisation of such TK are shared fairly and equitably with the knowledge-holders.

However, countries vary in the extent to which Indigenous peoples and local communities have established rights over genetic resources. The Protocol reflects this situation, tempering countries' obligations to support consent processes and benefit-sharing for these peoples via wording such as 'in accordance with domestic law'.

The Protocol also requires a range of supportive measures. National authorities are to inform potential users about whether PIC is required by Indigenous peoples and local communities, and about community procedures. Countries are to support development by Indigenous peoples and local communities of 'community protocols' – these are tools communities may use to clarify their values, priorities and processes regarding ABS. Needless to say, users should look out for community protocols and respect them.

Countries are not to restrict customary use and exchange of genetic resources and TK within and between Indigenous peoples and local communities. Countries are also expected to raise awareness by a range of activities and take special measures to increase communities' ABS capacity.

SLIDE 28

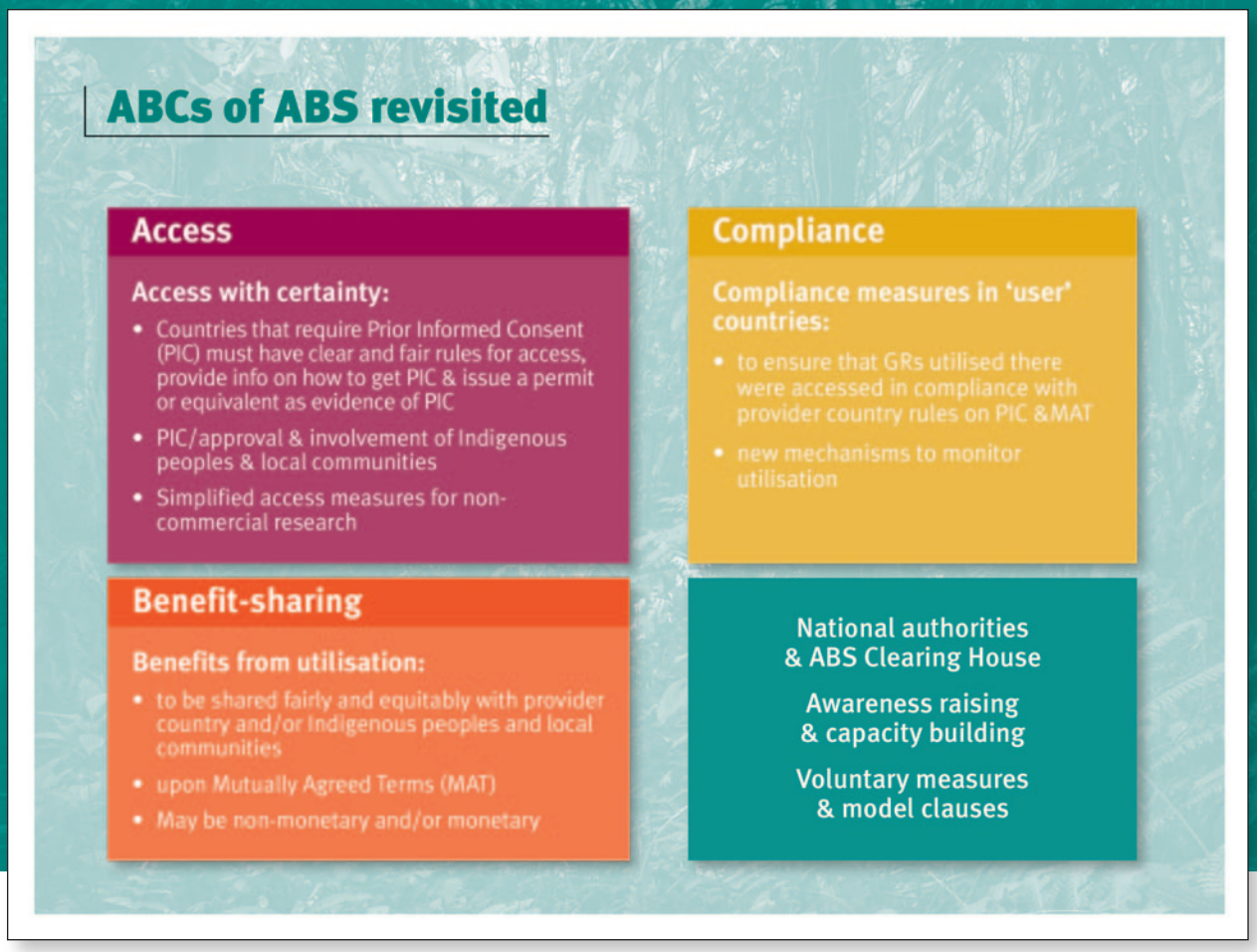
Voluntary sectoral measures

The Protocol recognises that different user sectors may access and utilise genetic resources, and share benefits, differently. It thus encourages the development, update and use of sectoral and cross-sectoral model contractual clauses, and voluntary codes of conduct, guidelines and best practices and/or standards.

The governing body of the Protocol will take stock of the use of these measures and may consider the adoption of specific codes of conduct, guidelines and best practices/or standards.

In this way, the Protocol offers a good opportunity for researchers and *ex situ* collections to develop realistic, practical model contracts and standards – perhaps ideally at an international scale with enough flexibility to be useable with different national ABS frameworks, but national-level sectoral measures can also be powerful tools for building trust with communities and governments.

Use of such tools indicates ABS awareness and implementation, and can help indicate more trustworthy partners in potential collaboration.



SLIDE 29

ABCs of ABS revisited

In summary, we can return to the ABCs of ABS in the Nagoya Protocol, adding some more detail:

A is for access with certainty. Countries that require PIC for access must have clear and fair rules for access, provide information on how to get PIC, and issue a permit or equivalent as evidence of the decision to grant access. PIC or approval and involvement of Indigenous and local communities is needed for access to their traditional knowledge, and may also be required for genetic resources they hold. Simplified access procedures may apply for non-commercial research.

B is for bilateral benefit-sharing, from utilisation and collaboration. Benefits need to be shared fairly and equitably with the provider country and/or Indigenous peoples and local communities, upon mutually agreed terms. Benefits may be non-monetary or monetary.

C is for compliance measures in 'user' countries. Countries need to ensure that genetic resources utilised there were accessed in compliance with provider country laws. To support compliance, new national and international measures are established to monitor utilisation.

These ABCs are supported by national authorities and the ABS clearing house, awareness raising and capacity building measures, and voluntary sectoral measures.

SLIDE 30

FAO International Treaty on Plant Genetic Resources for Food and Agriculture

Plant researchers and collections that use and exchange agricultural crop and livestock forage species should also be aware of another major international ABS treaty. The FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA, or Plant Treaty) is a specialised ABS treaty that takes a different approach to access and benefit-sharing, although its objectives are closely aligned to those of the CBD.

In particular situations, certain material may be exchanged according to measures established by this treaty, rather than the Nagoya Protocol.

The objectives of the ITPGRFA are the conservation and sustainable use of plant genetic resources for food an agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security.

The text of the ITPGRFA was approved by the FAO Conference on 3rd November 2001 after many years of negotiations. The Treaty came into force on 29th June 2004. As of 1st March 2019, there are 145 Parties to the ITPGRFA.

Up-to-date information on the Treaty's ratification can be found on the FAO website at http://www.fao.org/plant-treaty/countries/membership/en/.

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A specialised ABS treaty

Plant Genetic Resources for Food and Agriculture (PGRFA) are critical for our food security, and countries are highly interdependent on these resources. Crops such as wheat, maize, potatoes and rice are now world crops that farmers have adapted to their different climates and needs, and shared. All countries depend on crops that originated elsewhere. On average, 70% of a country's agricultural crops originated elsewhere – in some countries, up to 100%.

Countries thus need to allow for continued exchange of PGRFA and access to PGRFA in centres of origin and diversity. Access needs to be allowed as easily as possible and transaction costs need to be reduced, but there is also a need for an easy, efficient, equitable system of benefit-sharing.


Winston Chen

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ITPGRFA in brief

In general, the ITPGRFA requires its Parties to promote an integrated approach to exploration, characterisation, evaluation and documentation of PGRFA, to promote sustainable use, and to cooperate with each other.

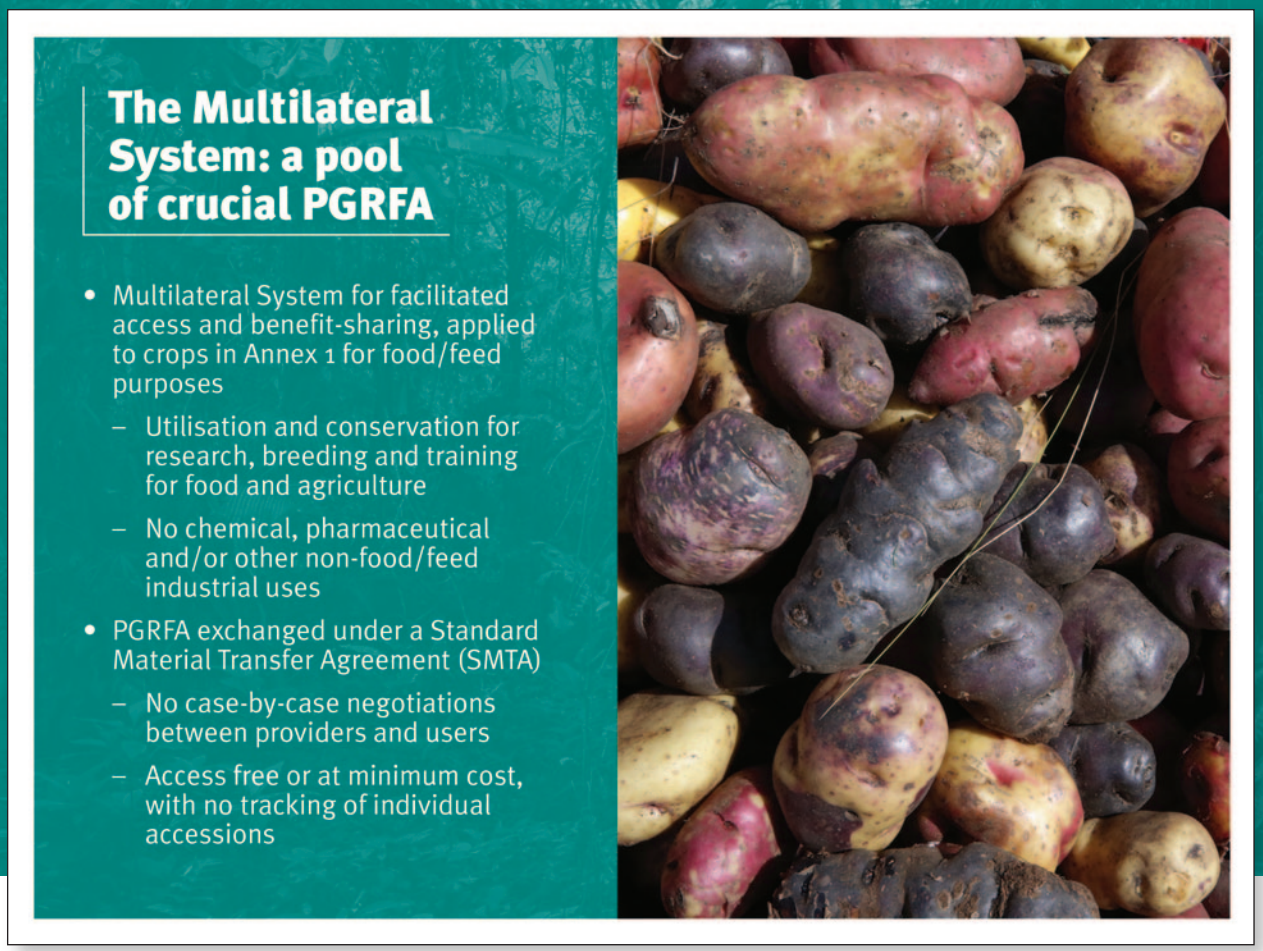
The ITPGRFA affirms Farmers' Rights. It recognises the contributions of farmers in all regions of the world, especially in centres of origin and diversity, in conserving, improving and making available PGRFA. It upholds their rights to save, use, exchange and sell farm-saved seed and other propagules, and to participate in decision-making regarding the use of PGRFA and to share in benefits arising from them.

In order to facilitate access to vital food crops and animal forages, the ITPGRFA establishes a Multilateral System (MLS). For food and agriculture purposes only, the exchange of particular taxa, listed in an Annex, is facilitated via the use of a Standard Material Transfer Agreement (SMTA).

Facilitated access is itself considered to be a major benefit that is shared, but the ITPGRFA highlights four other forms of benefit-sharing in the Multilateral System: exchange of information, access to and transfer of technology, capacity-building, and the sharing of monetary and other benefits of commercialisation via the Benefit-sharing Fund.

The Treaty sets out certain supporting components, notably the Global Plan of Action, certain provisions for *ex situ* collections of PGRFA held by International Agricultural Research Centres, and the Global Information System on PGRFA. The Treaty has a funding strategy (adopted in 2006) to attract funding from all sources; the Global Crop Diversity Trust is an essential element of the strategy.

Only the main points of the Treaty are summarised here. More information on the Treaty and its components, as well as recent developments, can be found on the FAO website and useful training materials can be found on the Bioversity website.



The Multilateral System: a pool of crucial PGRFA

The Multilateral System (MLS) creates a pool of crop and forage taxa for which access is facilitated 'for purposes of utilisation and conservation for research, breeding and training for food and agriculture, provided that the purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses'.

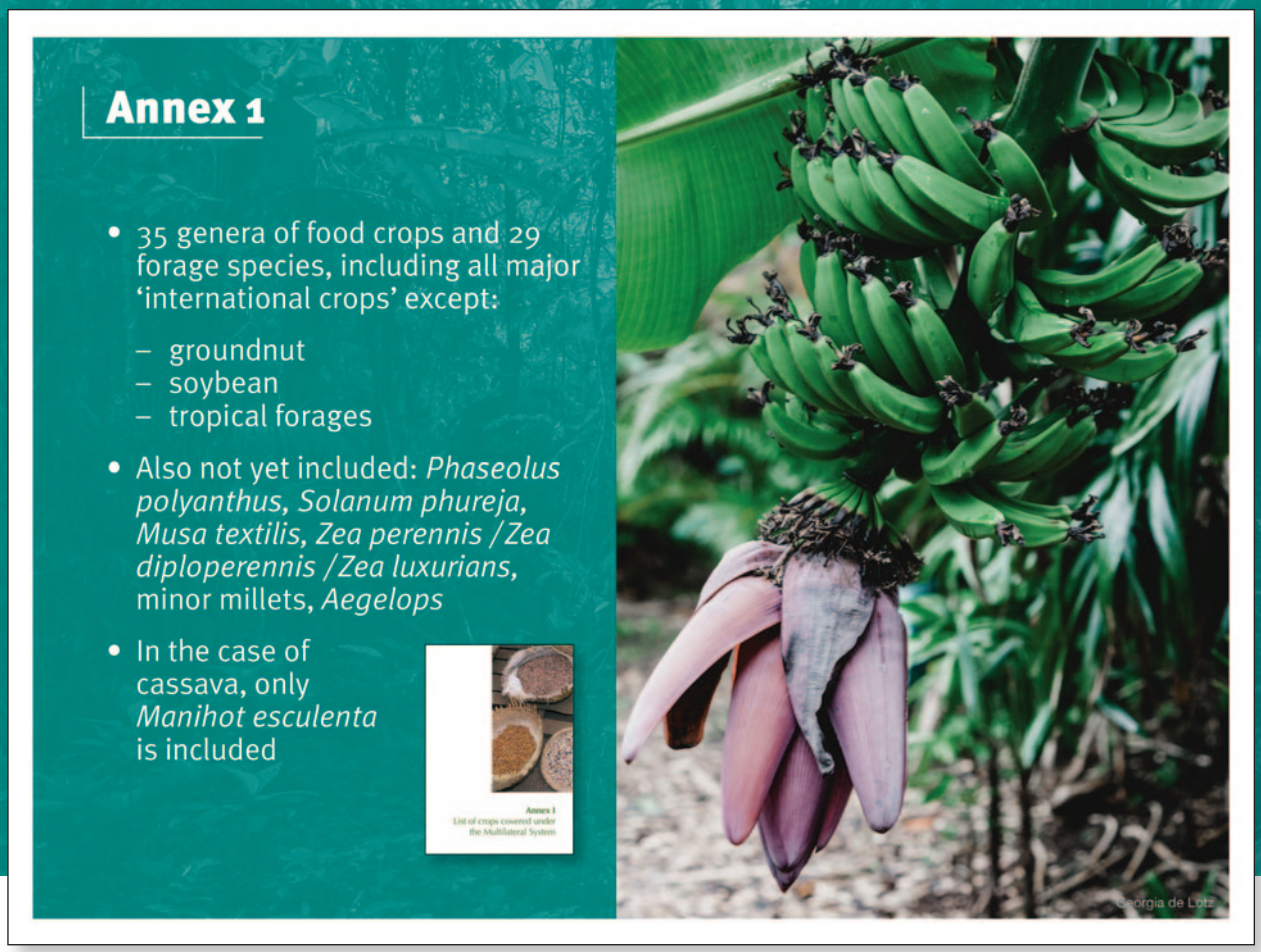
The Multilateral System does not automatically apply to all Annex 1 accessions. It includes all PGRFA on Annex 1 that are under the management and control of the Contracting Parties and in the public domain, but Parties effectively need to place the PGRFA into the MLS. Parties are also to invite and encourage other PGRFA holders to include their material in the MLS. The MLS also includes Annex 1 materials held by the International Agricultural Research Centers.

A Standard Material Transfer Agreement (SMTA) is used to set out the terms of use and transfer for all exchanges of Annex 1 material (and certain other material in some circumstances).

Use of a standard MTA means that there are no case-by-case negotiations between providers and users to obtain PIC and establish MAT. Access is to be expeditious and free of charge, or not exceeding the minimal cost involved. Tracking of individual accessions is unnecessary. All of these measures lower transaction costs and facilitate access.


Nautilus / TRAFFIC / WWF

SLIDE 34



Annex 1

Annex 1 of the Treaty is the list of crops and forages covered under the Multilateral System. To date, it contains 35 genera of food crops and 29 forage species. All major international crops are covered, except for groundnut, soybean, and tropical forages.

The 35 crop genera include these familiar global foods: *Avena* (Oat), *Brassica et al*. (Brassica complex), *Cicer* (Chickpea), *Citrus* (Citrus), *Cocos* (Coconut), *Colocasia* and *Xanthostoma* (major aroids), *Dioscorea* (Yams), *Helianthus* (Sunflower), *Hordeum* (Barley), *Ipomoea* (Sweet Potato), *Lens* (Lentil), Malus (Apple), *Manihot esculenta* (Cassava), *Musa* (Banana/Plantain), *Oryza* (Rice), *Phaseolus* (Beans), *Pisum* (Pea), *Secale* (Rye), *Solanum* sections *tuberosa* and *melongena* (Potato, Aubergine), *Sorghum* (Sorghum), *Triticum et al*. (Wheat), *Vicia* (Faba Bean/Vetch), and *Zea* (Maize).

Certain particular taxa of Annex 1 genera are excluded at this time: *Musa textilis, Phaseolus polyanthus*, *Solanum phureja*, *Zea perennis/Zea diploperennis/Zea luxurians*, minor millets and *Aegelops*.


ChrisLoades/FFI

SLIDE 35

Standard Material Transfer Agreement (SMTA)

The SMTA is a commercial contract, drafted through international negotiations. It sets out provider obligations, recipient rights, and recipient obligations.

Providers must make the materials available expeditiously, listing the material in the SMTA Annex, and inform the Treaty's governing body about the SMTAs they have entered into.

Recipients can use the materials for research, breeding or training, for food/feed related purposes only. They may not claim intellectual property rights on those materials and must continue to make the material they received available to other Parties.

Recipients may develop new products from the materials, and may protect and commercialise them. If a product is made available without restriction to others for further research and breeding, then a monetary benefit-sharing payment to the system is voluntary. If a recipient develops a product that is restricted, a payment is mandatory.

This arrangement may change in the years ahead, as there are discussions about moving to a subscription system for regular users and an alternative mechanism for occasional users, instead of the system of mandatory and voluntary payments. The SMTA will need to be revised in this case. Annex 1 may be amended too, as more crops might attract more subscriptions to the MLS, and thus more monetary benefits. There are also active discussions on how to manage and monitor the use of digital sequence data.


Van Ng C Tang

SLIDE 36

International Agricultural Research Centres (IARCs)

The ITPGRFA requires its Parties to recognise the importance of the *ex situ* collections held in trust by the International Agricultural Research Centers (IARCs) of the CGIAR Consortium. These centres pre-date the ITPGRFA, have an international mandate, and are indispensable sources of material for agricultural researchers. Each is an international organization with a specific agreement with the host country where the headquarters are located.

The CGIAR network includes the International Center for Tropical Agriculture (CIAT), the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Institute of Tropical Agriculture (IITA), the International Livestock Research Institute (ILRI), the International Maize and Wheat Improvement Center (CIMMYT), the International Potato Center (CIP), the International Rice Research Institute (IRRI) and Bioversity International.

Some of the material that IARCs hold is on Annex 1 of the ITPGRFA. These accessions are made available according to the Multilateral System, exchanged under the SMTA.

Non-Annex 1 material held by IARCs that was collected before the coming into force of the ITPGRFA (29 June 2004) is also effectively made available according to the Multilateral System and its SMTA.

Non-Annex 1 material that was received by an IARC after the ITPGRFA came into force is made available on terms consistent with those mutually agreed by the IARCs and the country of origin (or the country that acquired the material according to Article 15 of the CBD) – in other words they are covered by national measures established in response to the CBD, not the terms of the SMTA.

Parties in whose territory PGRFA were collected from *in situ* conditions do not need to use the SMTA or any other material transfer agreement (MTA) to receive those particular PGRFA from an IARC.

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	CBD	Nagoya Protocol	ITPGRFA
Parties (Mar. 2019)	195+EU (no USA or Vatican)	116 ratifications/accessions	145 but no China, Russia, South Africa, Mexico...
Scope (resources covered)	All biological resources Excludes human genetic resources (GR) and GR in areas beyond national jurisdiction (ABNJ)	GR in scope of CBD, associated TK, benefits from utilisation of GR & TK Excludes human GR, GR in ABNJ, & GR covered by specialised ABS instruments	Treaty: all PGRFA MLS: Annex 1 (35 genera of food crops, 29 forage species) + certain IARC collections For F&A purposes only
Objectives	Conservation of biological diversity; sustainable use; fair and equitable (F&E) benefit-sharing from utilisation of GR	F&E benefit-sharing from utilisation of GR	Conservation of PGRFA; sustainable use; F&E benefit-sharing - for sustainable agriculture and food security
Access procedure	Varies by country PIC unless otherwise 'Facilitated for environmentally sound purposes'	Varies by country If PIC, access standards 'Special considerations' Traditional knowledge	Share Multilateral system SMTA for Annex 1 & certain IARC collections 'Expeditious'
Benefit-sharing	Bilateral	Bilateral Multilateral system is being discussed	Multilateral system Facilitated access + 4 mechanisms, including the Benefit Sharing Fund
Compliance	No compliance measures	Compliance with national law; compliance with MAT; compliance by Parties with NP	Compliance by Parties with ITPGRFA implementation

Comparing the Treaties

Although the objectives of the ITPGRFA are closely aligned with those of the CBD, there are key differences.

Almost all countries are Party to the CBD and a growing number are Party to its Nagoya Protocol. The ITPGRFA has wide ratification but is missing some major agricultural producers at this time, notably China, Russia, South Africa and Mexico (the centre of origin and major centre of diversity of maize).

The scope of the ITPGRFA is tightly focused on food and agriculture, and its multilateral system covers only Annex 1 taxa, and certain non-Annex 1 material in IARCs.

Under the CBD and Nagoya Protocol, national governments determine access and approaches vary: some require PIC, some do not. Under the Protocol, Parties requiring PIC must establish clear and fair measures. According to the CBD, access should be facilitated for environmentally sound purposes, while the Nagoya Protocol highlights special considerations: non-commercial research, pathogens and food and agriculture. The ITPGRFA Multilateral System very explicitly facilitates access.

The Protocol also has specific provisions for access to and benefit-sharing from TK associated with genetic resources, while the CBD (with reference to Indigenous and local communities) and the ITPGRFA (with reference to farmers' rights) address protection and promotion of traditional knowledge in very general terms.

Under the CBD and Nagoya Protocol, terms are negotiated between providers and users, so are extremely variable, while under the ITPGRFA Multilateral System, using one standard agreement facilitates access.

Benefit-sharing is bilateral, between provider country and user, in the CBD and Nagoya Protocol, although a global multilateral benefit-sharing mechanism may be developed under the Protocol. The ITPGRFA establishes a Multilateral System and several modes of benefit-sharing, including the Benefit-sharing Fund.

Only the Nagoya Protocol has provisions that address compliance with national laws and compliance with mutually agreed terms.

Countries that are Parties to both the Protocol and the ITPGRFA are considering how best to implement both treaties (and the CBD) in a mutually supportive manner, balancing the bilateral and multilateral systems and avoiding the creation of loopholes.

SLIDE 38

Some resources

Convention on Biological Diversity & Nagoya Protocol: cbd.int
ABS Clearing House: https://absch.cbd.int/
International Treaty on Plant Genetic Resources for Food and Agriculture: www.fao.org/plant-treaty/en/

ABS Capacity Development Initiative: abs-initiative.info/
BGCI web pages (ABS Learning Modules, Principles on ABS, International Plant Exchange Network, implementation examples, and resources): bgci.org/policy/abs/
Bioversity International (including training resources): www.bioversityinternational.org
Biocultural Community Protocols: www.community-protocols.org, naturaljustice.org/community-protocols/
Consortium of European Taxonomic Facilities (CETAF) and Global Genome Biodiversity Network (GGBN) codes of conduct & best practices: cetaf.org/services/natural-science-collections-and-access-and-benefit-sharing and wiki.ggbn.org/ggbn/Documents
FairWild standard: www.fairwild.org/standard
International Society for Ethnobiology Code of Ethics: ethnobiology.net/what-we-do/core-programs/ise-ethics-program/code-of-ethics/
Introduction to Access and Benefit-Sharing and the Nagoya Protocol: What DNA Barcoding Researchers Need to Know: https://ab.pensoft.net/article/22579/
Swiss Academy of Sciences Good Practice Guide and Agreement Toolkit: naturalsciences.ch/organisations/biodiversity/abs
United Nations Development Project-Global Environment Facility Global ABS Project: abs-sustainabledevelopment.net
Union for Ethical Bio-Trade Standard: www.ethicalbiotrade.org/setting-the-standard and fact sheets: http://ethicalbiotrade.org/resources/#6

Selected resources

Official CBD and ITPGRFA websites

CBD and Nagoya Protocol: **cbd.int**

- ABS Clearing House: **absch.cbd.int/**
- CBD Secretariat ABS information kits: **www.cbd.int/abs/information-kit-en/default.shtml**

ITPGRFA: **www.fao.org/plant-treaty/en/**

Practical ABS tools and resources

ABS Capacity Development Initiative (many resources on ABS and biotrade, including explanatory videos, guides and booklets): **abs-initiative.info/**

ABS Information Forum (including, under tools & resources, a self-assessment tool for ABS compliance by organisations): **nagoyaprotocol.myspecies.info**

BGCI ABS resources (including ABS implementation examples, ABS learning modules and resources links): **www.bgci.org/policy/abs/**

Biocultural Community Protocols: **www.community-protocols.org, naturaljustice.org/community-protocols/**

Bioversity International (including training materials): **www.bioversityinternational.org**

Consortium of European Taxonomic Facilities (CETAF) ABS resources (including Code of Conduct, Best Practices, Practical Advice for ABS management in Museums, Herbaria and Botanic Gardens, and model agreements): **cetaf.org/services/natural-science-collections-and-access-and-benefit-sharing**

FairWild Standard: **www.fairwild.org/standard**

Global Genome Biodiversity Network (GGBN) ABS resources (including code of conduct, best practices and model agreements): **wiki.ggbn.org/ggbn/Documents**

International Plant Exchange Network: **bgci.org/policy/ipen/**

International Society for Ethnobiology Code of Ethics: **ethnobiology.net/what-we-do/core-programs/ise-ethics-program/code-of-ethics/**

Introduction to Access and Benefit-Sharing and the Nagoya Protocol: What DNA Barcoding Researchers Need to Know: **ab.pensoft.net/article/22579/**

Mutually supportive implementation of the Nagoya Protocol and the Plant Treaty: Scenarios for consideration by national focal points and other interested stakeholders: **hdl.handle.net/10568/96525**

Swiss Academy of Sciences Good Practice Guide and Agreement Toolkit: **naturalsciences.ch/organisations/biodiversity/abs**

United Nations Development Project-Global Environment Facility Global ABS Project: **abs-sustainabledevelopment.net** and UNDP-GEF Global ABS Community: **community.abs-sustainabledevelopment.net**


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Union for Ethical Bio-Trade Standard: **www.ethicalbiotrade.org/setting-the-standard** and UEBT fact sheets: **ethicalbiotrade.org/resources/#6**

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Cover image: Suzanne Sharrock
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