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GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



ABS Elements

Elements to Facilitate Domestic
Implementation of Access and Benefit-Sharing
for Different Subsectors of Genetic Resources
for Food and Agriculture



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Preface

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 (Nagoya Protocol) has been hailed as a giant step towards the implementation of the third objective of the Convention on Biological Diversity (CBD): the fair and equitable sharing of benefits arising out of the utilization of genetic resources, including by appropriate access to them. Implementing this third objective is intended to contribute to the conservation of biological diversity and the sustainable use of its components, the other two objectives of the CBD.

The Nagoya Protocol confronts policy-makers and administrators responsible for its implementation at the national level with a number of challenges. One of these challenges is the Nagoya Protocol's obligation to consider, in the development and implementation of access and benefit-sharing (ABS) measures, the importance of genetic resources for food and agriculture (GRFA) and their special role for food security. The Nagoya Protocol explicitly recognizes the importance of genetic resources to food security, the special nature of agricultural biodiversity, its distinctive features and problems needing distinctive solutions, as well as the interdependence of all countries with regard to GRFA, and the importance of GRFA for sustainable development of agriculture in the context of poverty alleviation and climate change. However, the Nagoya Protocol provides little guidance as to how the special features of GRFA might adequately be reflected in domestic ABS measures.

In 2013, the Commission on Genetic Resources for Food and Agriculture (Commission) of the Food and Agriculture Organization of the United Nations (FAO) put in place a process, the outputs of which are the Elements to Facilitate Domestic Implementation of Access and Benefit-Sharing for Different Subsectors of Genetic Resources for Food and Agriculture (ABS Elements). Developed by a Team of Technical and Legal Experts on Access and Benefit-sharing from all regions of the world, the ABS Elements were considered and welcomed by the Commission at its Fifteenth Regular Session (19–23 January 2015) and subsequently welcomed by the FAO Conference, the highest Governing Body of FAO.

The ABS Elements aim to assist governments considering developing, adapting or implementing ABS measures to take into account the importance of GRFA, their special role for food security and the distinctive features of the different subsectors of GRFA, while complying, as applicable, with international ABS instruments.



1

BACKGROUND

Access and benefit-sharing and the Commission on Genetic Resources for Food and Agriculture

1. The Food and Agriculture Organization of the United Nations (FAO) and its Commission on Genetic Resources for Food and Agriculture (Commission) have a longstanding history of dealing with issues related to genetic resources for food and agriculture (GRFA), including access to them and the fair and equitable sharing of benefits derived from their utilization. In 1983, the FAO Conference adopted the International Undertaking on Plant Genetic Resources for Food and Agriculture, which provided a policy and planning framework for the Commission with respect to plant genetic resources for food and agriculture (PGRFA). During the following years, the Commission negotiated further resolutions that interpreted the International Undertaking, and in 1994, started revising the International Undertaking. As a result of this process, the FAO Conference in 2001 adopted the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty), the first legally binding and operational international instrument on access and benefit-sharing (ABS) for genetic resources.

Convention on Biological Diversity

2. The Convention on Biological Diversity (CBD), adopted in 1992, is the first international agreement that addresses ABS in its objectives and provisions. It recognizes the sovereign rights of states over their natural resources and affirms the authority governments have, subject to their national legislation, to determine access to genetic resources.

The Nagoya Protocol

3. 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 (Nagoya Protocol) is a supplementary agreement to the CBD. It provides a legal framework for the effective implementation of the third objective of the CBD, the fair and equitable sharing of benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources, with a view to contributing to the conservation of biological diversity and the sustainable use of its components, the other two objectives of the CBD.

International Regime

4. As recognized by the Conference of the Parties of the CBD at its tenth meeting, the International Regime of ABS is constituted by the CBD and the Nagoya Protocol, as well as complementary instruments, including the Treaty and the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.¹

Special features of GRFA

5. The special nature of GRFA, which are included in agricultural biodiversity, their distinctive features and problems needing distinctive solutions, is widely acknowledged. The Conference of the Parties to the CBD, at its fifth meeting in 2000, considered the distinctive features of agricultural biodiversity to include the following:

- a. *Agricultural biodiversity is essential to satisfy basic human needs for food and livelihood security;*
- b. *Agricultural biodiversity is managed by farmers; many components of agricultural biodiversity depend on this human influence; indigenous knowledge and culture are integral parts of the management of agricultural biodiversity;*
- c. *There is a great interdependence between countries for the genetic resources for food and agriculture;*
- d. *For crops and domestic animals, diversity within species is at least as important as diversity between species and has been greatly expanded through agriculture;*
- e. *Because of the degree of human management of agricultural biodiversity, its conservation in production systems is inherently linked to sustainable use;*
- f. *Nonetheless, much biological diversity is now conserved ex situ in gene banks or breeders' materials;*

¹ COP 10 Decision X/1.

- g. *The interaction between the environment, genetic resources and management practices that occurs in situ within agro-ecosystems often contributes to maintaining a dynamic portfolio of agricultural biodiversity.*²

6. The Commission considered, at its Fourteenth Regular Session, the distinctive features of GRFA, as given in the Annex to this document. The list of features provides information on the characteristics of the different subsectors of GRFA.³ It should be noted that the Commission acknowledged the need to further refine this list of distinctive features and to focus on the utilization of GRFA.

The Nagoya Protocol and GRFA

7. The Nagoya Protocol, in its preamble, explicitly recognizes the importance of genetic resources to food security, the special nature of agricultural biodiversity, its distinctive features and problems needing distinctive solutions, as well as the interdependence of all countries with regard to GRFA and the special nature and importance of these resources for achieving food security worldwide and for sustainable development of agriculture in the context of poverty alleviation and climate change. In this regard, the Nagoya Protocol also acknowledges the fundamental role of the Treaty and the Commission.

8. In its operational provisions, the Nagoya Protocol requires Parties to consider, in the development and implementation of their ABS legislation or regulatory requirements, the importance of GRFA and their special role for food security.⁴ Parties shall also 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.⁵

9. The Nagoya Protocol leaves room for other international agreements in the field of ABS and it does not prevent its Parties from developing and implementing other relevant international agreements, including other specialized ABS agreements, provided that they are supportive of and do not run counter to the objectives of the CBD and the Nagoya Protocol.⁶ Where a specialized international ABS instrument that is consistent with and does not run counter to the objectives of the CBD and the Nagoya Protocol applies, the Nagoya Protocol does not apply for the Party or Parties

² COP 5 Decision VI/5, *Appendix*, paragraph 2.

³ Throughout this document, unless otherwise specified, "subsectors of GRFA" and "subsectors" are understood as to mean the subsectors of (1) plant genetic resources for food and agriculture; (2) animal genetic resources for food and agriculture; (3) forest genetic resources for food and agriculture; (4) aquatic genetic resources for food and agriculture and; (5) micro-organism genetic resources for food and agriculture; and (6) invertebrate genetic resources for food and agriculture.

⁴ Nagoya Protocol, Article 8(c).

⁵ Nagoya Protocol, Article 8(a).

⁶ Nagoya Protocol, Article 4.2.

to the specialized instrument in respect of the specific genetic resource covered by and for the purpose of the specialized instrument.⁷ One of the instruments explicitly acknowledged in the Preamble of the Nagoya Protocol is the Treaty, which has been developed in harmony with the CBD. Beyond this openness to other international instruments, the Nagoya Protocol also states that due regard should be paid to “useful and relevant ongoing work or practices under such international instruments and relevant international organizations, provided that they are supportive of and do not run counter to the objectives of the CBD and this Protocol.”⁸

10. The Nagoya Protocol also requires Parties to encourage, as appropriate, the development, update and use of sectoral and cross-sectoral model contractual clauses for mutually agreed terms (MAT) and of voluntary codes of conduct, guidelines and best practices and/or standards in relation to ABS.⁹ The Conference of the Parties to the CBD serving as meeting of the Parties to the Nagoya Protocol shall periodically take stock of the use of the model contractual clauses, codes of conduct, guidelines and best practices and/or standards.¹⁰

Development of the Elements to Facilitate Domestic Implementation of Access and Benefit-sharing for Different Subsectors of Genetic Resources for Food and Agriculture

11. The Commission, at its Fourteenth Regular Session, considered the need for and modalities of ABS for GRFA, taking into account relevant international instruments. It put in place the process that led to the development of these Elements to Facilitate Domestic Implementation of Access and Benefit-sharing for Different Subsectors of Genetic Resources for Food and Agriculture (ABS Elements).¹¹

12. The Commission established a Team of Technical and Legal Experts on Access and Benefit-sharing (ABS Expert Team) consisting of up to two representatives from each of the seven FAO regions. As requested by the Commission, the ABS Expert Team:

- Coordinated, with the assistance of the Secretariat, by electronic means as appropriate, to help prepare meetings of the Commission's intergovernmental technical working groups, and based on input from their regions prepared written materials and proposed guidance for the intergovernmental technical working groups;

⁷ Nagoya Protocol, Article 4.4.

⁸ Nagoya Protocol, Article 4.3.

⁹ Nagoya Protocol, Article 19.1; 20.1.

¹⁰ Nagoya Protocol, Article 19.2; 20.2.

¹¹ CGRFA-14/13/Report, paragraph 40.

- Participated in the relevant portions of the meetings of the intergovernmental technical working groups, to help inform and shape the intergovernmental technical working group discussions and output on ABS; and
- Worked after each intergovernmental technical working group meeting with the Secretariat to compile the intergovernmental technical working group outputs into the ABS Elements, and communicated the ABS Elements to their regions for information.

13. The elaboration of the ABS Elements and the work of the Commission's intergovernmental technical working groups built upon and benefited from inputs received, at the Commission's invitation, from governments and relevant stakeholders.¹² In 2015, the Commission, at its Fifteenth Regular Session, welcomed the ABS Elements and invited countries to consider and, as appropriate, make use of them and to provide feedback on their use.¹³ The FAO Conference, the highest Governing Body of FAO, echoed the Commission's sentiment and welcomed, at its Thirty-Ninth Session, the ABS Elements and invited Members to consider and, as appropriate, make use of them.¹⁴

¹² CGRFA/TTLE-ABS-1/14/Inf.2; CGRFA/TTLE-ABS-1/14/Inf.3.

¹³ CGRFA-15/15/Report, paragraph 22.

¹⁴ C 2015/REP, paragraph 52.



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OBJECTIVE OF THIS DOCUMENT

14. The overall objective of this document is to assist governments considering developing, adapting or implementing legislative, administrative or policy measures for ABS to take into account the importance of GRFA, their special role for food security and the distinctive features of the different subsectors of GRFA, while complying, as applicable, with international ABS instruments.



3

CONSIDERATIONS FOR DEVELOPING, ADAPTING OR IMPLEMENTING ACCESS AND BENEFIT-SHARING MEASURES FOR GENETIC RESOURCES FOR FOOD AND AGRICULTURE

15. In developing, adapting or implementing ABS measures addressing GRFA, governments may wish to consider taking the following steps:

I. Assessment of the concerned subsectors of GRFA, including their activities, socio-economic environments and use and exchange practices

a) Distinctive features of GRFA

As a first step, governments may wish to analyse the distinctive features of the subsectors of GRFA as they present themselves in their countries. Attempts to identify the distinctive features of agricultural biodiversity were made by the fifth meeting of the Conference of the Parties of the CBD¹⁵ and by the Commission at its Fourteenth Regular Session.¹⁶ Both bodies stressed: the essential role of GRFA for food security; the dependence of many GRFA on human intervention or influence; the high degree of interdependence between countries for GRFA; the fact that many GRFA have been shaped, developed, diversified and conserved through human

¹⁵ COP 5 Decision V/5, *Appendix*, paragraph 2.

¹⁶ CGRFA-14/13/Report, *Appendix E*, see *Appendix* to this document.

activities and practices over generations; the relevance of *ex situ* conservation, to varying degrees depending on the subsector of the GRFA; the relevance of *in situ* conservation to the conservation of all GRFA to maintain a dynamic portfolio of agricultural biodiversity.

b) Different forms of utilization of subsectors and variations within subsectors of GRFA

Governments may also wish to take into account the different forms and existing practices in which the different subsectors of GRFA make use of GRFA.

c) Legal, policy and administrative measures, including existing practices

Some subsectors of GRFA have developed specific practices for the use and exchange of genetic resources for research and development purposes; others, such as PGRFA falling under the Treaty's Multilateral System of Access and Benefit-sharing (MLS), are covered by specific administrative or sometimes even legal measures. Analysing existing commercial and research practices, as well as regulatory measures addressing the use and exchange of GRFA for research and development, will assist governments in the preparation of ABS measures that make use of and are in line with existing practices and thus avoid, to the extent possible and appropriate, the creation of additional administrative procedures. Governments may also wish to take into account the national legal framework of relevance to the implementation of ABS provisions, including property law, contract law and other laws, as applicable.

d) Possible implications of the scope, including subject-matter and temporal scope, of ABS measures

Governments may wish to analyse in some detail the implications of the scope, including the subject-matter and the temporal scope, of their ABS measures. With regard to the temporal scope of ABS measures, governments may wish to consider, in particular, the implications of applying ABS measures to materials originating from other countries that have been collected prior to the entry into force of their ABS measures.

e) Flows of germplasm, including international flows, within the different subsectors

The extent of the historical and current exchange of germplasm and the proportion of exotic diversity used vary between the subsectors of GRFA. While animal and plant genetic resources have extensively been exchanged, in other subsectors this may not be the case. While some of the most relevant species have been moved extensively throughout the world, others are just starting to be farmed in aquaculture or are only used within their natural habitats in native forests for the time being, and their exchange has been limited so far. In developing, adapting or implementing ABS measures, governments may wish to consider carefully the relevance of germplasm flows for the subsectors relevant to food and agriculture in their countries and possible future changes of germplasm flows due to climate change.

f) Possible gaps in ABS measures

In reviewing existing ABS measures, governments may wish to identify any gaps with regard to GRFA or related activities and determine the need for additional regulatory measures. Similarly, governments may wish to identify GRFA or related activities that may merit exclusion or modified measures.

II. Identification and consultation of relevant governmental entities and non-governmental stakeholders holding, providing or using GRFA

In the development, adaptation or review of ABS measures, governments may wish to identify and consult relevant governmental and non-governmental stakeholders, providing or utilizing GRFA, including farmers and indigenous and local communities, gene banks and collections, research institutions and private-sector entities. It is particularly important to consult government entities responsible for different subsectors of GRFA. The purpose of such consultations may be manifold, as they may: help raise awareness among stakeholders; allow policy- and decision-makers to get an insight into the specificities of the different subsectors of GRFA and the existing practices of using and exchanging genetic resources; inform potential users and providers of traditional knowledge associated with genetic resources and of genetic resources that are held by indigenous and local communities about their rights and obligations; help facilitate the implementation of future ABS measures.

III. Integration of ABS measures with broader food security and sustainable agricultural development policies and strategies

ABS measures for GRFA may be considered in the wider context of sustainable agricultural development and food security. Not always will those responsible for ABS also be in charge of sustainable agricultural development and food security strategies. It is important to coordinate different policy areas and goals and integrate them into a broader and consistent agriculture strategy.

IV. Consideration and evaluation of options for ABS measures

Based on an assessment of the concerned subsectors of GRFA, including their activities, socio-economic environments and use and exchange practices, and following appropriate consultations with relevant stakeholders and consideration of different options for ABS measures, governments may wish to develop, adopt or implement their ABS measures.

V. Integration of implementation of ABS measures into the institutional landscape

ABS measures cut across different sectors of genetic resources and GRFA, which are often the responsibility of different ministries and competent authorities. Governments may wish to consider using the existing infrastructures of sectors and subsectors for the implementation of ABS measures rather than creating new and additional administrative layers. Using and adapting, as appropriate, existing structures, administrative procedures and sectoral practices may facilitate the smooth

operationalization and implementation of ABS measures. It is important to minimize the transaction costs for providers and users of implementing and complying with any ABS measures.

VI. Communication of, and awareness-raising regarding, ABS measures for potential providers and users of GRFA

Communicating and raising awareness of ABS measures to potential providers, holders and users of GRFA are essential. Various communication and awareness-raising tools may be considered. Effective communication and awareness-raising strategies usually combine different communication tools and aim to provide stakeholder-specific information whenever necessary.

VII. *Ex ante* assessment and monitoring of the effectiveness and impact of ABS measures for GRFA

Possible implications, side-effects and implementation difficulties may often be anticipated through scenario-based testing of policy measures. Given the many challenges and innovations associated with ABS measures, governments may wish to carry out such tests and/or monitor effects by agreeing on a set of relevant indicators and mechanisms for stakeholder feedback.



4

ACCESS AND BENEFIT-SHARING FOR GENETIC RESOURCES FOR FOOD AND AGRICULTURE: THE INTERNATIONAL LEGAL FRAMEWORK

16. In establishing their national frameworks on ABS for GRFA, governments need to be aware of their legal obligations. Essentially three international instruments make up the global framework for ABS for genetic resources: the CBD, the Nagoya Protocol and the Treaty. It is noted that the three instruments are legally binding only for their Contracting Parties.¹⁷

Convention on Biological Diversity

17. The CBD requires its Contracting Parties to take legislative, administrative or policy measures, as appropriate, with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Parties providing such resources.¹⁸ Access to genetic resources shall be subject to prior informed consent (PIC) of the Contracting Party providing such resources that is country of origin of such resources or has acquired them in accordance with the CBD, unless otherwise

¹⁷ For lists of Parties, see: for the CBD, <http://www.cbd.int/information/parties.shtml>; for the Nagoya Protocol, <http://www.cbd.int/abs/nagoya-protocol/signatories/default.shtml>; for the Treaty, http://planttreaty.org/list_of_countries.

¹⁸ CBD, Article 15.7.

determined by that Party.¹⁹ Access, where granted, shall be on MAT.²⁰ Potential benefits to be shared also include: access to and transfer of technology using genetic resources; participation in biotechnological research activities based on the genetic resources; and priority access to the results and benefits arising from biotechnological use of the genetic resources.²¹

Nagoya Protocol

18. The Nagoya Protocol is a supplementary agreement to the CBD and provides a legal framework for the effective implementation of the third objective of the CBD on benefit-sharing, in support of its other two objectives, namely the conservation and sustainable use of biodiversity. The Nagoya Protocol applies to genetic resources and to traditional knowledge associated with them. It aims to achieve the fair and equitable sharing of benefits, by setting out provisions governing access (for Parties requiring PIC), appropriate technology transfer and funding; and it sets out compliance provisions. (More detailed information on the Nagoya Protocol is provided throughout this document.)

International Treaty on Plant Genetic Resources for Food and Agriculture

19. Like the CBD and the Nagoya Protocol, the Treaty is based on the premise that states have sovereign rights over their genetic resources and that the authority to determine access to these resources lies with national governments. Under the Treaty, the Contracting Parties exercised their sovereign rights to establish the MLS, to facilitate access and the sharing of monetary and non-monetary benefits arising from the use of PGRFA through standardized conditions as set out in the Standard Material Transfer Agreement (SMTA). While the Treaty applies to all PGRFA, its MLS applies only to PGRFA set out in Annex I to the Treaty that are under the management and control of the Contracting Parties and in the public domain.

Relationship between the Nagoya Protocol and specialized international ABS instruments

20. The Nagoya Protocol states that where a specialized international ABS instrument applies that is consistent with, and does not run counter to the objectives of the CBD and the Nagoya Protocol, the Nagoya Protocol does not apply for the Party or Parties to the specialized instrument in respect of the specific genetic resource covered by and for the purpose of the specialized instrument.²² The Treaty is such a specialized international ABS instrument that is consistent with and does not run counter to the objectives of the CBD and the Nagoya Protocol.

¹⁹ CBD, Article 15.5; 15.3.

²⁰ CBD, Article 15.4.

²¹ CBD, Articles 15.7; 16; 19; 20; 21.

²² Nagoya Protocol, Article 4.4.

21. It should be noted that the Nagoya Protocol shall be implemented in a mutually supportive manner with other international instruments relevant to the Nagoya Protocol. Due regard shall also be paid to useful and relevant ongoing work or practices under such international instruments and relevant international organizations, provided they are supportive of and do not run counter to the objectives of the CBD and the Nagoya Protocol.²³

²³ Nagoya Protocol, Article 4.3.



5

RATIONALE OF ACCESS AND BENEFIT-SHARING MEASURES FOR GENETIC RESOURCES FOR FOOD AND AGRICULTURE

22. Considering that GRFA are an integral part of agricultural and food production systems and therefore play an essential role in achieving food security and sustainable agricultural development, and that the international exchange of GRFA is essential to the functioning of the sector, ABS measures may be instrumental in furthering the achievement of food security and improving nutrition. There is general consensus that food and nutrition security requires effective conservation of GRFA and that the effective conservation of GRFA requires their continued use by farmers (including smallholders), indigenous and local communities, research institutions, breeders and other stakeholders. Therefore, ABS measures aimed at achieving food security and the conservation of GRFA should aim to facilitate and actively encourage the continued use and exchange of GRFA and benefit-sharing.

23. There is also agreement that the conservation and sustainable use of GRFA are essential to the sustainable development of agricultural production. Productivity, adaptability and resilience of agro-ecosystems depend on the diversity of GRFA.



6

ELEMENTS OF ACCESS AND BENEFIT-SHARING MEASURES FOR GENETIC RESOURCES FOR FOOD AND AGRICULTURE

24. Under the Nagoya Protocol, Parties shall consider, in the development, adaptation and implementation of their ABS measures, the importance of GRFA and their special role in food security.²⁴ The ABS Elements for national ABS measures for GRFA highlight those areas of ABS policy that may deserve particular attention from the perspective of research and development in food and agriculture.

25. National ABS measures for GRFA should be simple and flexible. *Simplicity* is a challenge given the complexity of the matter and given the variety of situations in which GRFA may be accessed, transferred to others, further improved and used for research and development. *Flexibility* is therefore necessary to allow administrators to adjust the implementation of ABS measures to new and newly identified situations and challenges. ABS measures should leave sufficient flexibility to accommodate new and newly identified situations without having to revise the legislation as such. ABS measures should therefore allow for an evolutionary implementation approach that allows improvement of the operation of the ABS system through practice, self-perfection and innovation. Parties to the Nagoya Protocol need to establish clear and transparent measures to implement it. Developing and implementing ABS measures is a *work in progress* and so is the development of these ABS Elements.

²⁴ Nagoya Protocol, Article 8(c).

26. National measures on ABS for GRFA may be associated with considerable transaction costs for administrators and stakeholders, and governments may wish to assess and minimize them in developing, adapting or implementing these measures.

27. In designing legislative, administrative or policy measures for ABS that reflect the special needs of GRFA, governments may wish to address a wide range of issues, addressed further below, to facilitate the domestic implementation of ABS for the different subsectors of GRFA:

- I. Institutional arrangements;
- II. Access to and utilization of GRFA;
- III. Access to traditional knowledge associated with GRFA;
- IV. Fair and equitable sharing of benefits;
- V. Compliance and monitoring.

I. Institutional arrangements

28. ABS measures will often specify the institutional arrangements for the management of ABS. Depending on the structure of a state, the form of government, the international ABS instruments to which the state is a party and, where relevant, the jurisdictional division of responsibility, and, depending on the ABS measures chosen, one or several competent authorities may be tasked with the administration of ABS measures. These may be either existing or new authorities. Several authorities within one country may also share the responsibility according to the geographical origin of the resource, the purpose for which it is to be accessed and utilized, the involvement of traditional knowledge associated with the genetic resource, the rights indigenous and local communities may have over the resource or any other criteria that seem appropriate and practical.

- Each Party to the Nagoya Protocol has to designate a single national focal point responsible for liaison with the CBD Secretariat and providing relevant information to applicants.²⁵
- Parties to the Nagoya Protocol also have to designate one or more competent national authorities responsible for granting access and advising on applicable procedures and requirements for obtaining PIC and entering into MAT.²⁶
- The same entity may fulfil the functions of both focal point and competent national authority.²⁷
- Where more than one competent national authority for the Nagoya Protocol is designated (e.g. for different subsectors of GRFA) the national focal point must provide information about their respective competencies and mandates.

²⁵ Nagoya Protocol, Article 13.1.

²⁶ Nagoya Protocol, Article 13.2.

²⁷ Nagoya Protocol, Article 13.3.

- Under the Treaty, facilitated access is provided pursuant to the SMTA adopted by the Treaty's Governing Body.²⁸ In practice, most Parties to the Treaty have national focal points, and institution(s) actually providing access to MLS material do so only upon acceptance of the SMTA by the recipient of the material.

29. To clarify institutional arrangements around ABS for GRFA, governments may wish to:

- Take stock of existing institutions and institutional arrangements that are potentially relevant;
- Decide on the allocation of institutional responsibility for various aspects of ABS as they apply to different subsectors of GRFA;
- Put in place mechanisms and/or procedures for communication and coordination between designated institutions; and
- Publicize and provide information about the resulting institutional arrangements.

30. Whatever institutional arrangements are chosen, it is of pivotal importance that the institutional arrangements are clear and transparent, and that adequate coordination and information exchange mechanisms are in place. Users of genetic resources need to know when PIC is required, whom they have to ask for PIC and with whom they may negotiate MAT, if this is what the ABS measures require. Where several, e.g. federal and state, authorities are involved in one and the same decision, the authorization procedure may quickly become complicated and time-consuming, and transaction costs may increase considerably. To avoid overly burdensome institutional arrangements, it would be useful to identify existing arrangements that may be used to address PIC and MAT. Where several authorities are involved in the approval procedures, governments may wish to consider designating one lead authority or national clearinghouse to oversee the whole chain of partial approvals, communicate with the applicant and ultimately grant one cumulative authorization once all relevant authorities have given their green light

II. Access to and utilization of GRFA

31. In developing, adapting or implementing ABS measures dealing with access to GRFA it is necessary to specify:

- (i) the categories of genetic resources covered by the access provisions;
- (ii) intended uses triggering the application of access provisions;
- (iii) the authorization procedures applicable, depending on the category of genetic resource and the purpose for which the resource is to be used.

²⁸ Treaty, Article 12.4.

(i) Categories of genetic resources covered by access provisions

32. In the CBD and the Nagoya Protocol, the term “genetic resources” means “genetic material of actual or potential value” and genetic material means “any material of plant, animal, microbial or other origin containing functional units of heredity.”²⁹ This definition is also mirrored in the Treaty, which defines “plant genetic resources for food and agriculture” as “any genetic material of plant origin of actual or potential value for food and agriculture”.³⁰ Parties to the Treaty should make sure that their ABS framework addresses their obligations under the Treaty.

Temporal scope of access measures for GRFA

33. There is an international debate about the temporal scope that national ABS measures could or should have. The Nagoya Protocol, in the absence of any rules to the contrary, does not prevent its Parties from applying their national ABS measures to utilizations or access to genetic resources that fall outside the scope of the Nagoya Protocol. However, with regard to resources outside the scope of the Nagoya Protocol, Parties cannot necessarily rely on the support of user country compliance measures, as set out in Articles 15 to 18 of the Nagoya Protocol, or compliance measures in non-Parties.

Genetic resources provided by countries of origin/countries that acquired them in accordance with the CBD

34. Parties to the CBD will usually apply their access measures to genetic resources for which they are the country of origin or that they have acquired in accordance with the CBD. “Country of origin of genetic resources” means the country that possesses those genetic resources in *in situ* conditions.³¹ “*In situ* conditions” means conditions where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.³²

35. In the case of many GRFA, it may be difficult to determine with certainty the country of origin. GRFA have been widely exchanged across regions, countries and communities, often over long periods of time. Many different stakeholders, including indigenous and local communities, farmers, researchers and breeders have contributed to the development of GRFA, in different places and at different points in time. In fact, the maintenance and evolution of many GRFA depend on continued human intervention, and their sustainable utilization in research, development and production is an important instrument with which to ensure their conservation.

36. ABS measures need to be clear as to which GRFA are covered by the relevant access provisions.

²⁹ CBD, Article 2.

³⁰ Treaty, Article 2.

³¹ CBD, Article 2.

³² CBD, Article 2.

Privately versus publicly held genetic resources

37. While the Treaty's MLS addresses only PGRFA "that are under the management and control of the Contracting Parties"³³ and materials brought within the purview of the Treaty by other holders,³⁴ the Nagoya Protocol does not make the distinction between genetic resources that are under the management and control of government and other categories of genetic resources.

38. Given that significant amounts of GRFA are privately held, in particular in sectors such as the livestock sector, ABS measures need to be clear as to whether they apply to privately held or only to publicly held GRFA. ABS measures may have a significant impact on the exchange of such GRFA. Such laws may also need to clarify the hierarchy or relationship of different types of proprietary, including intellectual property, and quasi-proprietary and other rights related to genetic resources.

Genetic resources versus biological resources

39. The Nagoya Protocol covers "genetic resources" and their utilization.³⁵ However, some ABS measures also cover "biological resources" and their utilization. Governments should reflect on whether the inclusion of biological resources in ABS measures and their use beyond utilization, as addressed in the Nagoya Protocol, has any effect on the use of and access to GRFA.

Genetic resources held by indigenous and local communities

40. The Nagoya Protocol also addresses, as a special case, genetic resources held by indigenous and local communities. The Protocol requires Parties in such cases to take measures, in accordance with domestic law, as appropriate, with the aim of ensuring that the PIC or approval and involvement of indigenous and local communities is obtained for access to genetic resources where they have the established right to grant access to such resources.³⁶

41. ABS measures implementing the Nagoya Protocol may foresee procedures for the PIC or approval and involvement of the indigenous and local communities where they have the established right to grant access to such resources. Community PIC, as such, is a challenging, although not completely new, concept. National measures should address how PIC or approval and involvement of indigenous and local communities may be obtained, taking into consideration indigenous and local communities' customary laws, community protocols and procedures, as applicable.

³³ Treaty, Article 11.2.

³⁴ Treaty, Articles 15; 11.3.

³⁵ CBD, Article 2.

³⁶ Nagoya Protocol, Article 6.2.

**(ii) Intended uses triggering the application of access provisions
Research and development on the genetic and/or biochemical composition
of GRFA**

42. Some national ABS measures apply to specific uses of genetic resources, i.e. to their use in research and development. The Nagoya Protocol provides that “access to genetic resources for their utilization shall be subject to PIC by the country providing such resources that is the country of origin of such resources or that has acquired the genetic resources in accordance with the Convention (...)” unless otherwise determined by that Party.³⁷ “Utilization of genetic resources” means “to conduct research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology (...)”³⁸

43. Other ABS measures cover further uses that trigger the application of access provisions. Under those measures, the acquisition of genetic resources for certain purposes other than research and breeding may require PIC, for example the use of genetic resources for the extraction of specific compounds. The measures often refer to “biological resources”, meaning that the resources are not used for their genetic composition, but as an end product or commodity. The rationale for such a broad definition is the experience that compounds used in the pharmaceutical and cosmetic industries are often extracted from agricultural products sourced through intermediaries from local markets at local prices that at times do not reflect the actual market value of the extracted compounds.

44. A broad definition of purposes that would capture a whole range of activities that typically and regularly happen with agricultural commodities in the course of food production will obviously imply that access provisions would apply to a possibly large number of transactions where for the time being the assumption of buyers of such commodities in most countries might be that in such cases the sales contract manifests the ABS agreement. In fact, the sales contract might or might not satisfy ABS requirements according to national measures.

45. For non-Parties to the Nagoya Protocol there is also the option of a different approach.

Development of genetic resources in the course of agricultural production

46. If the activities triggering access provisions are limited to “utilization” within the meaning of the Nagoya Protocol, certain typical uses of GRFA, for example the growing of seeds in order subsequently to use the harvested products for human consumption clearly do not qualify as utilization and therefore do not trigger the application of access provisions.

³⁷ Nagoya Protocol, Article 6.1.

³⁸ Nagoya Protocol, Article 2(c).

47. Other activities regularly performed with respect to GRFA are more difficult to classify. The question may arise as to whether selection and reproduction of plant genetic resources by a farmer or farming community based on phenotypic traits and not entailing any genetic methods, qualify as “utilization”. Similarly, fish farming while serving the purpose of producing fish for human consumption may simultaneously, through natural selection due to the hatchery environment, contribute to the genetic development and, indeed, domestication of the fish. Provenance trials that help to identify tree seedlings best adapted to the conditions of a specific planting site may simply serve the purpose of reforestation and the production of timber on sites that are similar to the test environment; on the other hand, provenance research is also important for planned breeding within and between species. The use of cattle embryos or bovine semen for reproduction and, ultimately, dairy or meat production may be considered as falling outside the boundaries of “utilization”. However, the selection of semen-donor bulls and the selection of offspring for multiplication may entail aspects of research and development. Subject to national measures, the assumption of stakeholders when selling genetic material in the form of semen, embryos, etc., will often be that its value as a genetic resource is already reflected in its price, and that the buyer will be free to use it for further research and breeding.³⁹ If, however, the planned use of such material qualifies as “utilization,” as defined by national measures, access requirements may apply.

48. Many GRFA are being shaped, developed and improved through their continued use in agricultural production. Where “research and development” and agricultural production occur in tandem, it may be difficult to distinguish “utilization” from activities related to the production of agricultural products for sale and human consumption. ABS measures could provide guidance as to the treatment of these cases, for example by listing examples of activities/purposes of use that fall under “utilization” and other examples that fall outside the definition of “utilization”. Further technical guidance will be important to facilitate the implementation of national ABS measures.

Research and development for food and agriculture

49. In light of Article 8(c) of the Nagoya Protocol, governments could consider treating access to and utilization of genetic resources differently if they are intended to contribute to food and agricultural research and development. One option would be for a country not to require PIC for such resources. Alternatively, special procedural requirements, or benefit-sharing standards, could apply or a special authority could, for example, be responsible for ABS. ABS measures making this distinction, could consider whether they should or should not include non-food/feed agricultural products.⁴⁰ However, drawing a distinction between food/feed and non-food/feed agricultural products faces the difficulty that at the stage of research and development the purpose for which the outcome will ultimately be used will often be unknown. Many agricultural products may be and are used for both food and non-food purposes. Nonetheless, ABS

³⁹ CGRFA Background Study Paper No. 43. 2009. *The use and exchange of animal genetic resources for food and agriculture*, p. 28.

⁴⁰ See Treaty, Article 12.3(a).

measures could, for example, exempt from “research and development for food and agriculture” research and development that is intended exclusively to serve non-food/feed purposes.

Commercial/non-commercial research and development

50. ABS measures sometimes distinguish between commercial and non-commercial utilization of genetic resources. Non-commercial utilization often benefits from softer authorization requirements and simpler authorization procedures. PIC is often required for both forms of utilization. However, in the case of non-commercial utilization, recipients are sometimes given the option of not negotiating the sharing of monetary benefits immediately, if they agree to get back to the provider and negotiate monetary benefit-sharing should their intent change. Countries should consider how to identify triggers that signal when change of intent occurs and how to address such changes of intent.

51. The distinction between commercial and non-commercial utilization, which is particularly important for taxonomic research and encouraged by the Nagoya Protocol,⁴¹ might have limited application in the case of certain aspects of agricultural research and development that aim at improving agricultural and food production and therefore might qualify, in most cases, as commercial utilization. However, the distinction may be significant for taxonomic research used to build frameworks for distinguishing pests and pathogens and alien taxa from indigenous, or beneficial or harmless taxa.

Exemption of specific activities

52. ABS measures may also exempt certain utilizations of genetic resources from any ABS requirements. For example, the exchange of genetic resources within and among local and indigenous communities and small-scale farmers, as well as exchange practices within nationally recognized research networks, could be exempted from any access requirements and, possibly, the ABS measures as such.

(iii) Authorization procedures

53. The Nagoya Protocol provides that access to genetic resources for their utilization shall be subject to the PIC of the Party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in accordance with the CBD, unless otherwise determined by that Party.⁴²

PIC

54. Many variations of authorization procedures exist and governments may therefore wish to consider advantages and disadvantages of the different options and adapt procedures to the different categories of genetic resources and the different purposes for which they are intended to be used. The Nagoya Protocol does not

⁴¹ Nagoya Protocol, Article 8(a).

⁴² Nagoya Protocol, Article 6.1.

provide in any detail how PIC should be granted and thus leaves its Parties, within the boundaries of Article 6.3 of the Nagoya Protocol, considerable flexibility as to how the authorization procedure may be designed. Parties to the Nagoya Protocol may also provide for different types of authorization procedures depending on the user. In any event, it is important that the procedures be streamlined and clear for providers and users alike. The selection of different types of authorization procedures given below does not claim to be exhaustive.

Standard and fast-track PIC

55. Governments may wish to establish standard procedures and, in addition, fast-track procedures for certain situations, e.g. for access to certain materials; for materials that are to be used for certain purposes, e.g. research and development for food and agriculture; for access by certain stakeholders, e.g. farmers; or for combinations of these scenarios.

Implicit PIC

56. ABS measures may also provide for implicit informed consent procedures for specific materials, purposes, stakeholders or other situations. In this case, access to and utilization of genetic resources could proceed without an explicit PIC by the competent authority. Implicit PIC does not rule out the possibility of benefit-sharing. Relevant ABS measures could provide, for example, that in the case of implicit PIC, the recipient has to agree with the competent authority on the terms and conditions of benefit-sharing prior to the commercialization of a product derived from the genetic resource.

Standardization of PIC (and MAT)

57. A typical regulatory response to the high number of transfers of GRFA and the recurrent exchange events in the food and agriculture sector could be the standardization of access procedures, terms and conditions. The Treaty already establishes a fully functioning precedent for this approach through its SMTA.

58. A good starting point for the use of standardized procedures and conditions could be already existing pools of GRFA, for instance in the form of collections and gene banks, provider and user communities and networks. Their established exchange practices may offer useful models to build upon, as they often include the use of an agreed set of conditions and modalities, sometimes even formalized in the form of codes of conduct, guidelines or material transfer agreements.

59. ABS measures may establish standard ABS conditions for specific materials, purposes, stakeholders or other standard situations. Recipients accessing and using specified genetic resources, for example for specified research/development purposes, would have to abide by a set of access and benefit-sharing conditions predefined in the ABS measures. Given the variety of resources, the variety of purposes for which they may be used and the variety of stakeholders, standardization of ABS may not work as an overall solution for all GRFA. However, for specific types of utilization of genetic resources that usually generate a similar scale of benefits, standardization of ABS may

be a viable option and, in addition, a powerful instrument to attract recipients who prefer abiding by a set of predefined ABS standards over having to negotiate bilateral ABS agreements on a case-by-case basis.

60. The standardization of PIC (and MAT) procedures may, if the agreed standards are adequate and have been developed in line with existing practices and upon consultation with relevant stakeholders, help to reduce transaction costs considerably, and may also help to speed up the administrative decision-making processes.

Framework PIC (and MAT)

61. As the international exchange of genetic material is a longstanding practice in the food and agriculture sector, many stakeholders rely on it, and business practices have been structured accordingly, often characterized by transnational specialization and division of labour. The different stakeholders managing and using GRFA are interdependent and GRFA are often exchanged in the framework of close working collaborations and partnerships, with many stakeholders acting as intermediaries in the value chain, i.e. being neither the original provider nor the end user of a specific GRFA.

62. ABS measures may accommodate these practices by providing for the possibility of concluding framework agreements that authorize access to and utilization of a specified range of genetic resources, possibly limited to specific purposes, provided benefits are shared as and when agreed. In this case, users would not have to request access for each genetic resource separately but would possibly still have to notify every accession they actually accessed and used for research and breeding to provide legal certainty to users and facilitate monitoring of compliance with the framework agreement. The framework PIC may be particularly appropriate for sectors that exchange large amounts of germplasm among the different stakeholders along the value chain during research and development.

III. Access to traditional knowledge associated with GRFA

63. Under the Nagoya Protocol, in accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources is accessed with the PIC or approval and involvement of the indigenous and local communities holding such traditional knowledge, and that MAT have been established.⁴³ It is important to note that these requirements apply to traditional knowledge associated with genetic resources irrespective of whether genetic resources are being made available at the same time.

64. The Protocol requires that, in accordance with domestic law, Parties take into consideration indigenous and local communities' customary laws, community protocols and procedures with respect to traditional knowledge associated with

⁴³ Nagoya Protocol, Article 7.

genetic resources. National focal points shall provide, where possible, information on procedures for obtaining PIC or approval and involvement, as appropriate, of indigenous and local communities. Further guidance may well be required as to how PIC or approval and involvement of indigenous and local communities may be obtained. In the case of traditional knowledge associated with GRFA, much of this knowledge may be shared by several communities, and national measures need to clarify how in such cases fully valid approval may be obtained.

65. It should be noted that Article 9 of the Treaty, on Farmers' Rights, includes a provision on the protection of traditional knowledge relevant to PGRFA.

IV. Fair and equitable sharing of benefits

(i) Scope of benefit-sharing obligations

66. Many GRFA may have been collected long before the application of national ABS measures. For these resources, the question is no longer whether or under what conditions they may be accessed, as access has already occurred. ABS measures should be clear as to whether they require the sharing of benefits arising from new or continued uses of genetic resources or associated traditional knowledge accessed prior to the ABS measures having been put into place. As noted above, there is an international debate on the temporal scope of the Nagoya Protocol.

67. Governments may wish to consider carefully the implications of expanding the scope of their ABS measures to previously accessed GRFA or traditional knowledge. As most countries are using GRFA originating from other countries, ABS measures covering previously accessed GRFA could lead to considerable uncertainty regarding the status of such resources and, more importantly, severely discourage potential users from utilizing such GRFA for research and development.

(ii) Fair and equitable

68. The fair and equitable sharing of benefits arising from the utilization of genetic resources is a key component of ABS measures. Benefits may include monetary and non-monetary benefits. According to the Nagoya Protocol, benefits arising from the utilization of genetic resources, as well as subsequent applications and commercialization, shall be shared in a fair and equitable way with the Party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in accordance with the CBD.⁴⁴ Such sharing shall be on MAT. Bilateral case-by-case negotiations of MAT for GRFA may entail high transactions costs and therefore not be practical. Providers and users of GRFA may therefore wish to rely on model contractual clauses, codes of conduct, guidelines, best practices and/or standards developed for their sector or subsector. Benefits shared under the MLS of

⁴⁴ Nagoya Protocol, Article 5.1.

the Treaty include: the exchange of information, access to and transfer of technology; capacity-building; and the sharing of benefits arising from the commercialization of PGRFA.⁴⁵ Some of these benefits are specified in the SMTA of the Treaty.

(iii) Beneficiaries

69. Identifying the proper beneficiary or beneficiaries may be particularly difficult in the case of GRFA. The innovation process for many GRFA, in particular plant and animal genetic resources, is usually of incremental nature and based on contributions made by many different people in different places at different points of time. Most products are not developed out of an individual genetic resource, but with the contributions of several genetic resources at different stages in the innovation process.

70. Sharing the benefits in a fair and equitable way and sharing the benefits with the proper beneficiary may therefore become a major challenge for most subsectors of GRFA, including aquatic and forest genetic resources where breeding technologies play an increasingly important role. Depending on the extent to which genetic resources and associated traditional knowledge contribute to a final product, it may become difficult to determine the fair and equitable sharing of benefits with the different countries and indigenous and local communities that contributed genetic resources and/or traditional knowledge. Where it is difficult to determine the country of origin of GRFA, the question may arise as to whether several countries may be considered the country of origin of a genetic resource where the genetic resource has acquired its distinctive properties in the natural surroundings of these countries.

71. Various options for accommodating the incremental nature of the innovation process typical of many GRFA may be considered. There may be circumstances in which providers and users are best positioned to negotiate benefit-sharing among themselves. Alternatively, benefits could, for example, be decoupled from individual providers or accessions, pooled in a national benefit-sharing fund or other cooperative arrangements and be distributed in line with agreed policies and disbursement criteria. This option could be considered, in particular, for the distribution of benefits among different beneficiaries at national level (e.g. the state and various indigenous and local communities). However, where the genetic resources originate from different countries, governments may wish to consider how to reflect the interests and views of the countries involved in the benefit-sharing models, including through the use of multilateral solutions.

(iv) Monetary and non-monetary benefits

72. The terms and conditions of monetary and non-monetary benefit-sharing will often depend on the particularities and specificities of the subsector, the species, the concrete intended use, etc. However, access to GRFA will always be a benefit in itself, as is stated for PGRFA in Article 13(1) of the Treaty, and governments may wish to

⁴⁵ Treaty, Article 13.2.

consider how to address forms of utilization that restrict subsequent access. The mutual exchange of GRFA may be an option that governments may wish to consider, as it would allow for access to GRFA without having to negotiate the sharing of monetary benefits and yet offers substantial benefits to both sides.

73. Considering the important non-monetary benefits of GRFA, such as characterization data, research results, capacity-building and technology transfer, ABS measures for GRFA may identify non-monetary benefits that are of particular relevance to the food and agriculture sector. The Nagoya Protocol lists research directed towards food security, taking into account domestic uses of genetic resources in the country providing genetic resources, as well as food and livelihood security benefits, as possible non-monetary benefits.⁴⁶

(v) Sharing benefits through partnerships

74. As international exchange of genetic material is a longstanding practice in the food and agriculture sector, many stakeholders rely on it, and business practices and scientific collaboration partnerships have been structured accordingly. The different stakeholders managing and using GRFA are interdependent and GRFA are often exchanged in the framework of close working collaborations and partnerships, with many stakeholders acting in the value chain being neither the original providers nor the end users of the GRFA. To manage the sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, ABS measures may allow for benefit-sharing arrangements to be part of broader research partnership agreements. Such framework agreements (see above, paragraphs 61–62) may cover a range of genetic resources. Conversely, governments may wish to consider regulating exchanges of GRFA that could adversely impact the diversity of local GRFA.

(vi) Global multilateral benefit-sharing mechanism

75. Parties to the Nagoya Protocol have agreed on a process to consider the need for and modalities of a global multilateral benefit-sharing mechanism, which may be relevant to benefit-sharing for GRFA.⁴⁷

V. Compliance and monitoring

76. There are different types of compliance measures in the area of ABS, including: compliance of countries with an international instrument such as the Treaty or the Nagoya Protocol; compliance of users with PIC and MAT; and compliance with domestic legislation of the providing country. With regard to the third type of compliance, the Nagoya Protocol requires each Party to take appropriate, effective and proportionate legislative, administrative or policy measures to provide that genetic resources utilized

⁴⁶ Nagoya Protocol, Annex, sections 2(m); 2(o).

⁴⁷ Nagoya Protocol, Article 10; Decision NP I/10.

within its jurisdiction have been accessed in accordance with PIC and that MAT have been established, as required by the domestic ABS legislation or regulatory requirements of the other Party. Parties to the Nagoya Protocol shall also take measures to address non-compliance with user country measures and cooperate in cases of alleged violations.⁴⁸ To support compliance, Parties to the Nagoya Protocol shall also take measures, as appropriate, to monitor and to enhance transparency about the utilization of genetic resources, which shall include the designation of one or more checkpoints.⁴⁹ It should be noted that under the Treaty, access shall be accorded expeditiously without the need to track individual accessions.⁵⁰

77. Compliance measures may pose challenges to the food and agriculture sector if the ABS status of GRFA used in breeding is unknown to users. Governments may wish to consider distinctive solutions to this problem, including through supporting the development of subsectoral standards building on current best practices, such as the breeders' exemption, or putting in place multilateral solutions.

⁴⁸ Nagoya Protocol, Article 15 & 16.

⁴⁹ Nagoya Protocol, Article 17.

⁵⁰ Treaty, Article 12.3(b).

ANNEX

DISTINCTIVE FEATURES OF GENETIC RESOURCES FOR FOOD AND AGRICULTURE⁵¹

The distinctive features of GRFA requiring distinctive solutions for ABS are presented below in seven clusters. They aim to reflect an equilibrium between all subsectors of food and agriculture. Not every feature is necessarily applicable to each and every GRFA and the various subsectors often have different features. Further detailing of subsector-specific features may still be developed.

The features are distinctive, but not necessarily unique to GRFA. While other genetic resources may share with GRFA some of the features listed below, the specific combination of these features distinguishes GRFA from most other genetic resources.

		WG AnGR ⁵²	WG FGR2 ⁵³	WG PGR3 ⁵⁴
A. The role of GRFA for food security	A.1 GRFA are an integral part of agricultural and food production systems and play an essential role in achieving food security and the sustainable development of the food and agriculture sector.		+	+
	A.2 Plant, animal, invertebrate and micro-organism GRFA form an interdependent network of genetic diversity in agricultural ecosystems.		+	
B. The role of human management	B.1 The existence of most GRFA is closely linked to human activity and many GRFA can be regarded as human-modified forms of genetic resources.		-	
	B.2 The maintenance and evolution of many GRFA depend on continued human intervention, and their sustainable utilization in research, development and production is an important instrument with which to ensure conservation.	+	-	

⁵¹ This table is taken from CGRFA-14/13/Report, *Appendix E*.

⁵² CGRFA-14/13/12, paragraph 32.

⁵³ CGRFA-14/13/10, paragraph 21.

⁵⁴ CGRFA-14/13/20, Table 2.

C. International exchange and inter-dependence	C.1 Historically, GRFA have been widely exchanged across communities, countries and regions, often over long periods of time, and a relevant part of the genetic diversity used in food and agriculture today is of exotic origin.	+	-	+
	C.2 Countries are interdependent with regard to GRFA and act both as providers of some GRFA and as recipients of others.		+	
	C.3 The international exchange of GRFA is essential to the functioning of the sector, and its importance is likely to increase in future.	+	+	+
D. The nature of the innovation process	D.1 The innovation process for GRFA is usually of incremental nature and the result of contributions made by many different people, including indigenous and local communities, farmers, researchers and breeders, in different places and at different points in time.	+	+	+
	D.2 Many GRFA products are not developed out of an individual genetic resource, but with the contributions of several GRFA at different stages in the innovation process.		-	+
	D.3 Most products developed with the use of GRFA can in turn be used as genetic resources for further research and development, which makes it difficult to draw a clear line between providers and recipients of GRFA.		+	+
	D.4 Many agricultural products reach the market place in a form in which they may be used both as biological resources and as genetic resources.	-	+	

E. Holders and users of GRFA	E.1 GRFA are held and used by a broad range of very diverse stakeholders. There are distinct communities of providers and users with respect to the different subsectors of GRFA.	+	-	+
	E.2 The different stakeholders managing and using GRFA are interdependent.		+	
	E.3 A significant amount of GRFA is privately held.	+	-	
	E.4 An important part of GRFA is held and can be accessed <i>ex situ</i> .	-	-	
	E.5 An important part of GRFA is conserved <i>in situ</i> and on farm under different financial, technical and legal conditions.	+	+	
F. GRFA exchange practices	F.1 The exchange of GRFA takes place in the context of customary practices and existing communities of providers and users.	+	+	+
	F.2 Extensive transfer of genetic material between different stakeholders along the value chain occurs in research and development.	+	-	
G. Benefits generated with the use of GRFA	G.1 While the overall benefits of GRFA are very high, it is difficult to estimate at the time of the transaction the expected benefits of an individual sample of GRFA.		+	+
	G.2 The use of GRFA may also generate important non-monetary benefits.		+	
	G.3 The use of GRFA may lead to external effects going far beyond the individual provider and recipient.		+	

Note: The Intergovernmental Technical Working Groups on Plant, Animal, and Forest Genetic Resources, in reviewing the distinctive features identified by the Ad Hoc Technical Working Group on Access and Benefit-sharing for Genetic Resources for Food and Agriculture, highlighted features particularly relevant (marked in the table above by plus signs [+]) or less (or not) relevant (marked in the table by minus signs [-]) to their subsectors.

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 has been hailed as a giant step towards the implementation of the third objective of the Convention: the fair and equitable sharing of benefits arising out of the utilization of genetic resources, including by appropriate access to them. Implementing this third objective is intended to contribute to the conservation of biological diversity and the sustainable use of its components, the other two objectives of the Convention.

The Protocol confronts policy makers and administrators responsible for its implementation at the national level with a number of challenges. One of these challenges is the Protocol's obligation to consider, in the development and implementation of access and benefit-sharing measures, the importance of genetic resources for food and agriculture and their special role for food security.

The Elements to Facilitate Domestic Implementation of Access and Benefit-Sharing for Different Subsectors of Genetic Resources for Food and Agriculture aim to assist governments considering developing, adapting or implementing access and benefit-sharing measures, to take into account the importance of genetic resources for food and agriculture, their special role for food security and the distinctive features of their different subsectors, while complying, as applicable, with international instruments.

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