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COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Item 3 of the Provisional Agenda

TEAM OF TECHNICAL AND LEGAL EXPERTS ON ACCESS AND BENEFIT-SHARING

Sixth Session

Rome, 2–4 May 2023

ACCESS AND BENEFIT-SHARING AND GENETIC RESOURCES FOR FOOD AND AGRICULTURE

TABLE OF CONTENTS

I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Eighteenth Regular Session, reviewed its past work on access and benefit-sharing for genetic resources for food and agriculture and considered future work in this area. It welcomed the *Survey of access and benefit-sharing country measures accommodating the distinctive features of genetic resources for food and agriculture and associated traditional knowledge*[1] (Survey) and thanked the intergovernmental technical working groups and the Team of Technical and Legal Experts on Access and Benefit-sharing (ABS Expert Team) for the comments they had provided on an earlier draft.[2]

2. This document briefly summarizes the Commission's requests to the ABS Expert Team regarding future work on ABS for GRFA and provides two draft documents prepared in response to these requests. The ABS Expert Team is invited to review and, as appropriate, revise these documents, for consideration by the Commission at its forthcoming Nineteenth Regular Session.

3. Comments and inputs received from the intergovernmental technical working groups on the two documents are contained in the reports of the Working Groups.[3] They are also reflected, together with comments and inputs received from individual Members of the Working Groups during or after the working group sessions, in the document *Access and benefit-sharing: comments and inputs*.

II. TYPOLOGY OF ACCESS AND BENEFIT-SHARING COUNTRY MEASURES

4. In considering the Survey, the Commission requested the Secretariat to compile, as a stand-alone document, specific examples of existing country legislative, administrative or policy access and benefit-sharing (ABS) measures that directly or indirectly accommodate distinctive features of genetic resources for food and agriculture (GRFA) and associated traditional knowledge (TKGRFA) for review by the Working Groups, the ABS Expert Team and the Commission at their next sessions.[4]

5. In response to the Commission's request, the Secretariat prepared, with the support of the University of Bremen, Germany, a typology of ABS country measures reflecting the importance of GRFA, their special role for food security and their distinctive features, which is contained in *Appendix I* to this document.

6. It is important to note that not all the measures listed are necessarily specific to GRFA. In fact, while the document focusses on measures accommodating directly or indirectly the distinctive features of GRFA, it also lists, in line with the non-prescriptive nature of the *Elements to facilitate domestic implementation of access and benefit-sharing for different subsectors of genetic resources for food and agriculture* (ABS Elements),[5] in some places other measures to indicate the wide range of options countries have in regulating ABS for their genetic resources.

7. Developing and implementing ABS measures is work in progress and so is the development of the ABS Elements and of the typology of country measures. The ABS Elements and the typology are therefore living documents that need to be reviewed, updated and improved regularly. Their primary purpose is to inspire policy- and decision-makers in developing and implementing ABS measures.

8. The typology follows the structure of the five key elements of ABS measures for GRFA identified in the ABS Elements: (1) institutional arrangements; (2) access to and utilization of GRFA; (3) access to and utilization of TKGRFA; (4) benefit-sharing relating to GRFA and TKGRFA; and (5) monitoring and compliance.

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[1] Humphries, F., Laird, S., Wynberg, R., Morrison, C. Lawson, C. and Kolesnikova, A. 2021. *Survey of access and benefit-sharing country measures accommodating the distinctive features of genetic resources for food and agriculture and associated traditional knowledge*. Rome, FAO on behalf of the Commission on Genetic Resources for Food and Agriculture. https://doi.org/10.4060/cb6525en

[2] CGRFA-18/21/Report, paragraph 25.

[3] CGRFA/TTLE-ABS-6/23/Inf.6; CGRFA/TTLE-ABS-6/23/Inf.7 CGRFA/TTLE-ABS-6/23/Inf.8 CGRFA/TTLE-ABS-6/23/Inf.9.

[4] CGRFA-18/21/Report, paragraph 26.

[5] FAO. 2019. *ABS Elements: Elements to facilitate domestic implementation of access and benefit-sharing for different subsectors of genetic resources for food and agriculture – with explanatory notes*. FAO, Rome

III. IMPLEMENTATION OF ACCESS AND BENEFIT-SHARING MEASURES

9. In addition to the typology of ABS country measures, the Commission, at its last session, initiated a report on the practical application of ABS country measures to the different subsectors of GRFA and TKGRFA, including monitoring of ABS compliance, with a view to identifying the effects of ABS measures on the utilization and conservation of the different subsectors of GRFA and TKGRFA and the sharing of benefits. The Commission requested that the report be based on a pre-tested country questionnaire.

10. In addition, the Commission requested the Secretariat to prepare, based on responses to the same questionnaire, an evaluation of the usefulness of the ABS Elements for the development and implementation of ABS measures, with the aim of identifying and addressing gaps and weaknesses in the ABS Elements.

11. The draft online questionnaire is provided in *Appendix II* to this document. Based on responses to this questionnaire, the Secretariat intends to prepare the report on the implications of ABS measures for the utilization and exchange of GRFA and for the sharing of benefits arising from their utilization, for consideration by the Commission at its Twentieth Regular Session.

IV. GUIDANCE SOUGHT

12. The ABS Expert Team is invited to review and, as appropriate, revise, the typology of ABS country measures and the draft questionnaire, taking into account the comments and inputs received from the intergovernmental technical working groups and its Members.

APPENDIX I

ACCESS AND BENEFIT-SHARING AND GENETIC RESOURCES FOR FOOD AND AGRICULTURE: TYPOLOGY OF COUNTRY MEASURES

CONTENTS

ABBREVIATIONS AND ACRONYMS

ABS	access and benefit-sharing
ABS CH	Access and Benefit-sharing Clearinghouse (ABSCH)
AnGR	animal genetic resources for food and agriculture
Art.	Article
BABS	bioprospecting, access and benefit sharing
BR	biological resources
BS	benefit-sharing
BSA	Benefit-sharing Agreement
c.	Clause
CA	Competent Authority
CBD	Convention on Biological Diversity
CGen	Consejo de Gestión del Patrimonio Genético (Genetic Heritage Management Council Brazil)
CNA	Competent National Authority
DEA/DEFF	Department of Environmental Affairs/Department of Forestry, Fisheries and the Environment
FGR	forest resources for food and agriculture
GIZ	Gesellschaft für Internationale Zusammenarbeit
GR	genetic resource(s)
GRFA	genetic resources for food and agriculture
INABIO	Instituto Nacional de Biodiversidad (Costa Rica)
IPLCs	Indigenous Peoples and Local Communities
MAT	mutually agreed terms
MoA	Memorandum of Agreement
MTA	Material Transfer Agreement
NBCC	National Biodiversity Coordination Committee (Nepal)
NEMA	National Environment Management Authority (Kenya)
NEMBA	National Environmental Management: Biodiversity Act
No.	Number
NP	Nagoya Protocol
OJ	Official Journal

PIC	prior informed consent
PTKCEA	Protection of Traditional Knowledge and Cultural Expressions Act (Kenya)
R&D	research and development
Reg.	Regulation(s)
s.	Section
SENESCYT	Secretaría Nacional de Educación superior, Ciencia, Tecnología e Innovación (Ecuador)
SMTA	Standard Material Transfer Agreement
TK	traditional knowledge (associated with genetic resources)
TKGRFA	traditional knowledge associated with genetic resources for food and agriculture
Treaty	International Treaty on Plant Genetic Resources for Food and Agriculture
UNCST	Uganda National Council for Science and Technology
UNDP	United Nations Development Programme

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	Measure	Country (examples)	Further reading
Element 1: INSTITUTIONAL ARRANGEMENTS			
1.1 Institutional responsibility			
1.1.1 Single institutional responsibility for access and benefit-sharing (ABS) *Some countries have chosen to entrust one single institution with the administration of ABS measures*	(a) Single institution with focus on food, forest and/or agriculture	Comoros;[1] Benin;[2] Netherlands (the Kingdom of);[3] Portugal;[4] Bulgaria;[5] Bhutan;[6] Viet Nam;[7] Grenada;[8] Saint Kitts and Nevis;[9] Peru;[10] Honduras;[11]	Humphries *et al*., 2021, p13f, 16ff; ABSCH, 2022; Hailu & Kamau, 2022, p243f; Mulesa & Westengen, 2020; National Biodiversity Centre, Bhutan, 2018, p23
	(b) Single institution with environmental focus	South Africa; Burundi;[12] Ethiopia;[13] Denmark;[14]; Dominican Republic;[15] Guatemala;[16] Syrian Arab Republic[17]	
	(c) Single institution with science/technology focus	Uganda;[18] Singapore;[19]	
	(d) Single institution with overall responsibility for all biodiversity	Peru;[20] Costa Rica;[21] Ethiopia[22]	
1.1.2 Shared institutional responsibility for ABS *Other countries have chosen to entrust different institutions with the ABS administration*	(a) Based on type of genetic resource	Viet Nam;[23] Republic of Korea;[24] Estonia;[25] Zimbabwe[26]	Humphries *et al*., 2021, p. 14f; Trang, Ba Nguyen & Thu, 2022, p333; Lee & Cho, 2022, p380f
	(b) Based on commercial or non-commercial utilization	South Africa;[27] Ecuador[28] [29]	Humphries *et al*., 2021, p14f: Kamau, 2022a, p168f; Cabrera Ormaza, 2022, p103ff
	(c) Based on (sub)sector or field of research	Mexico, Peru, Republic of Korea	Humphries *et al*., 2021, p14f; ABSCH, 2022
1.1.3 Interagency coordination of ABS decisions *Countries have established various mechanisms to coordinate administration of*	(a) One-stop-shop approach	Uganda;[30] Mozambique;[31] Nepal[32] Brazil;[33] Ecuador[34] India;[35] Dominican Republic[36]	Humphries *et al*., 2021, p16ff; Otieno *et al*., 2017; ABS Initiative, 2019; Nepalese Government, 2014, p112; Halewood, 2015; Mozini, 2022, p79f; Kamau, 2022b, p311f; Cabrera Ormaza, 2022, p104; Dominican Republic, https://ambiente.gob.do/autorizaciones-ambientales-2/

	Measure	Country (examples)	Further reading
ABS among responsible agencies.	(b) Coordination committees/councils *(in addition or in lieu of the one-stop-shop approach)*	South Africa;[37] France;[38] Kenya;[39] Bhutan[40]	Humphries *et al*., 2021, p16ff; Wynberg, 2017, pp198−218; FRB, 2020
1.2 Provision of national information on responsible institutions, ABS measures and procedures			
Countries have chosen different ways to provide information on responsible institutions, ABS measures and procedures	Websites, web portals, virtual platforms or information portals	Finland;[41] Denmark;[42] Republic of Korea;[43] Hungary;[44] Cameroon;[45] Malaysia;[46] France;[47] Germany;[48] Costa Rica;[49] Kenya;[50] Qatar[51]	Humphries *et al*., 2021, p17ff

	Measure	Country (examples)	Further reading
Element 2: ACCESS TO AND UTILIZATION OF GENETIC RESOURCES FOR FOOD AND AGRICULTURE (GRFA)			
2.1 Categories of genetic resources (GR) subject to ABS provisions on access			
2.1.1 Temporal scope *Access provisions usually apply to genetic resources accessed after entry into force of Nagoya Protocol/ABS measure*	ABS provisions on access may apply to:		
	(a) GR accessed prior to entry into force of ABS measure	Malaysia[52]	
	(b) GR accessed after entry into force of ABS measure	EU Regulation;[53] Malta;[54] France[55]	Winter, 2022; Greiber & Frederichs, 2022
2.1.2 GR for which provider country is country of origin or has acquired GR in accordance with Convention on Biological Diversity (CBD)	"Country of origin" may be where:		
	(a) GR exists within ecosystems and natural habitats		Humphries *et al*., 2021, p23ff
	(b) Domesticated or cultivated species developed its distinctive properties	France;[56] Mozambique;[57] Uganda[58]	Humphries *et al*., 2021, p24ff
	(c) Domestication took place	Kenya[59]	Humphries *et al*., 2021, p24
	(d) GR have been domesticated and produced for a long time	Viet Nam[60]	Humphries *et al*., 2021, p23ff
	(e) Native species was present in the country's territory before a specific date	Australia[61]	Humphries *et al*., 2021, p24ff
	(f) Micro-organism as isolated from the national territory substrates, territorial sea, exclusive economic zone or the continental shelf	Brazil;[62] Colombia[63]	Humphries *et al*., 2021, p24ff
2.1.3 Privately/ publicly held GR	ABS measures may apply to:		
	(a) Publicly and privately held genetic resources	most countries	
	(b) Genetic resources on public land	Australia[64]	Humphries *et al*., 2021, p25, 38
2.1.4 GR vs biological resources	(a) GR only	all	
	(b) Biological resources in addition	Malaysia; Australia; India; Malta[65]	
2.1.5 Genetic information	(a) Only in conjunction with utilization of physical GR	Most countries	Bagley *et al.,* 2020, pp 13–18.

	Measure	Country (examples)	Further reading
	(b) Independent of utilization of physical GR	Bhutan[66]	
2.1.6 GR held by Indigenous Peoples and local communities (IPLC)[67] *Many countries require the consent of the IPLC holding the GR*	ABS measures may require:		
	(a) Prior informed consent (PIC) or approval and involvement of Indigenous Peoples and Local Communities (IPLC)	South Africa;[68] Malaysia;[69] Kenya;[70] Peru;[71] Spain[72]	Kamau, 2022a, p172f.; Kamau, 2022c, p362ff.; Kamau, 2022b, p290f.; Cabrera Ormaza,2022, p110f.; Silvestri, 2022b, 451f
	(b) Compliance with community protocols (in addition to ABS measures)	Indonesia[73]	
	(c) Exception to the requirement of consent by IPLC holding the GR may apply:		
	(d) Where IPLC does not exploit GR sufficiently or refuses to grant licence on "reasonable commercial terms and conditions"	Zambia[74]	Humphries *et al*., 2021, p27; Kamau 2022b, p281f
2.1.7 Exemptions of specific genetic resources *ABS measures of many countries do not apply to specific GRFA/related activities*	ABS measures may exempt: (a) PGRFA falling under the Multilateral System of the Treaty	Argentina;[75] Peru[76]; EU	Silvestri 2022a, p53, 55; Humphries *et al*., 2021, p28f.
	(b) GR for which ABS is governed by specialized international instrument	EU;[77] Malaysia;[78] France[79]	Kamau, 2022c, pp355, 359, 370; Mahop, 2022, p468
	(c) Plant varieties protected by intellectual property rights	Portugal;[80] Uganda;[81] Kenya[82]	
	(d) GR arising from domesticated or cultivated species	Argentina;[83] Bhutan;[84] France[85]	Silvestri, 2022a, p53; Mahop, 2022, p468
	(e) Crop wild relatives	France[86]	Humphries *et al*., 2021, p29
	(f) GR subject to forestry	France[87]	Humphries *et al*., 2021, p29
	(g) Biological material cultivated or bred for use as a model in research and development	Morocco[88]	Humphries *et al*., 2021, p29
	(h) Wild and domesticated plant genetic resources (PGR) and animal genetic resources (AnGR) managed under other legislation	Bhutan[89]	Humphries *et al*., 2021, p29
	(i) Specific categories of GR, e.g. fisheries and AnGR	Spain[90]	Silvestri, 2022b, 449f
	(j) GRFA at discretion of the government	Australia[91]	Humphries *et al*., 2021, p29
	(k) On case-by-case basis, e.g. GR in public *ex situ* collections	e.g. in Australia's Commonwealth areas;[92] India[93]	Humphries *et al*., 2021, p29, 38

	Measure	Country (examples)	Further reading
	(l) GR collected by laboratories in the context of prevention, surveillance and combating risks to animal and plant health and to food safety	France[94]	Humphries *et al.* , 2021, p33; Mahop, 2022, p468
	(m) Biological resources normally traded as commodities	India[95]	
	(n) Derivatives accessed independently from GR	Viet Nam;[96] Malta[97]	Trang, Ba Nguyen T. & Thu, 2022, p329
2.2 Activities triggering/not triggering ABS obligations			
Usually access to GR for "utilization" triggers ABS obligations. "Utilization" means to conduct research and development on the genetic or biochemical composition of genetic resources, including through the use of biotechnology.			
2.2.1 Specific provisions on GRFA-related activities	GRFA-related activities (explicitly or implicitly) exempted by some countries from ABS obligations:		
	(a) Agricultural activities that are not for the purpose of research and development	Malaysia[98]	Humphries *et al*., 2021, p31
	(b) Use of GR for production of agricultural products for sale	South Africa[99]	Humphries *et al*., 2021, p29f
	(c) Use of GR as commodity for final consumption	Malta;[100] Bangladesh;[101] The Philippines[102]	Humphries *et al*., 2021, p29f ; Mozini 2022, p78
	(d) Aquaculture or mariculture activities involving freshwater and marine species producing specimens for consumption purpose	South Africa;[103] Australia;[104] Malaysia;[105] Spain[106]	Humphries *et al*., 2021, p31; Kamau, 2022a, p168
	(e) Collection of GR for use in public collections or further breeding in agriculture or forestry	Norway[107]	Humphries *et al*., 2021, p31
	(f) Collecting broodstock for aquaculture	Australia (regulates "biological materials")	Humphries *et al*., 2021, p30
	(g) Collecting plant reproductive material for propagation	Australia (regulates "biological materials")	Humphries *et al*., 2021, p30
	(h) Production and marketing of seeds and forest plants	Spain[108]	Humphries *et al*., 2021, p31
	(i) Collection and maintenance of samples in *ex situ* collections for conservation purposes	Spain[109]	Humphries *et al*., 2021, p33
	(j) Biological resources normally traded as commodities	India[110]	Humphries *et al*., 2021, p30

	Measure	Country (examples)	Further reading
	(k) Horticultural cultivation, except for horticultural genetic engineering	United States of Amertic (Utah)[111]	Humphries *et al*., 2021, p31
	(l) Livestock marketed as regular consumer goods	Bangladesh[112]	Humphries *et al*., 2021, p30
2.2.2 Specific provisions on non-commercial research	(a) GRFA research is not considered "commercial" bioprospecting	Solomon Islands[113]	Humphries *et al*., 2021, p30
	(b) Non-commercial breeding on specific forest genetic resources (FGR)	Spain Government 2021a (postpones benefit-sharing until there are breeding results)	
2.2.3 Specific provisions on activities performed by specific user groups *Some countries waive ABS obligations/provide for simplified procedures for activities by specific user groups.*	Exempted activities if performed by specific user groups:		
	(a) Exchange among IPLC in exercise of their traditional and customary practices	Malaysia;[114] Kenya[115]	Humphries *et al*., 2021, p33; Kamau, 2022c , p359; Kamau, 2022b, p278
	(b) Exchange of GR/TK among IPLC for their own consumption	Guatemala;[116] Uganda[117]	
	(c) Local people and communities of the area, including growers and cultivators (unless they wish to obtain intellectual property rights(IPR)	India[118]	
	(d) Conventional breeding or traditional practices in use in agriculture, horticulture, poultry farming, dairy farming, animal husbandry or bee keeping by small-scale farmers	Malaysia[119]	
	(e) Access to and utilization of GR by farmers, pastoralists and fishers according to their traditional way of life	China[120]	
	(f) Research by nationally recognized research organizations and foreign collaborators of such organizations	India[121]	
	(g) Research by educational institutions	Kenya[122]	Kamau, 2022b, p303 footnote 147
	(h) Exchanging within networks of user groups	India[123]	Humphries *et al*., 2021, p33
2.3 Authorization procedures applicable under ABS measures			
Countries may require PIC and mutually agreed terms prior to access and utilization of GR.			

	Measure	Country (examples)	Further reading
2.3.1 Simplified approval procedures *Countries may require PIC and mutually agreed terms (MAT) prior to access and utilization of GR.*	Instead of PIC, countries may choose to require/offer:		
	(a) No PIC for specific GR, e.g. GRFA	South Africa[124]	Kamau, 2022a, p168f.
	(b) Access and utilization upon notification/ registration instead of PIC. Authorization is instead required prior to commercialization, transfer to third parties or change of initial intent	Brazil[125] France;[126] South Africa[127]	Mozini, 2022, p74, 76; Humphries *et al*., 2021, p35; da Silva & de Oliveira, 2018, p1; Kamau, 2022c, p366; Mahop, 2022, p468; Kamau, 2022a, p185f
	(c) Standard Material Transfer Agreement (SMTA)	Treaty - SMTA is used by some countries for PGRFA that are not in Annex 1 of the Treaty	
	(d) Standardized access conditions for (all) BR/GR	South Africa;[128] Uganda;[129] Philippines[130]	Humphries *et al*., 2021, p36
	(e) Framework PIC, MAT	Andean Community;[131] Peru[132]	Humphries *et al*., 2021, p36; Cabrera Ormaza, 2019, p84 & 88, Cabrera Ormaza, 2022, p106f, 110; Beck, 2022, p497, 499ff
2.3.2 Procedural simplifications for specific activities	Countries provide for simplified procedures for specific activities, such as:		
	(a) Subsistence consumption and conventional commercial consumption	Philippines[133]	
	(b) Scientific research on agrobiodiversity that does not create spin-off technology	Philippines[134]	
	(c) Activities involving no economic exploitation of products or reproductive materials arising from GR	Brazil[135]	Mozini, 2022, p82, 84ff
	(d) R&D taxonomic, conservation or biosecurity purposes	Spain;[136] France[137]	Humphries *et al*., 2021, p33
	(e) Development of therapeutic drugs and food security in the event there are threats to the life and health of humans, animals, and plants	Republic of Korea[138]	Humphries *et al*., 2021, p36; Lee & Cho, 2022, 381ff
	(f) Non-commercial research conducted by national state institutions	Philippines;[139] India[140]	Humphries *et al*., 2021, p34

	Measure	Country (examples)	Further reading
	(g) Access to GR for non-commercial/purely scientific purposes	Argentina[141]	Silvestri, 2022a, p55
	(h) Taxonomic, collection and pre-breeding purposes and research projects	Mexico;[142] South Africa[143]	Humphries *et al*., 2021, p33 ; Kamau, 2022a, p166f.

	Measure	Country (examples)	Further reading
ELEMENT 3: ACCESS TO AND UTILIZATION OF TRADITIONAL KNOWLEDGE ASSOCIATED WITH GENETIC RESOURCES FOR FOOD AND AGRICULTURE			
3.1 Defining traditional knowledge (TK) *There are various definitions of TK in national (ABS) measures.*	Definitions refer to, for example:		
	(a) Relevant accumulated, transgenerational knowledge evolved by Indigenous Peoples and Local Communities (IPLC)	Peru[144]	Humphries *et al*., 2021, p39ff
	(b) Relevant knowledge, experience and initiatives of native people	Viet Nam[145]	Trang, Ba Nguyen & Thu, 2022, p337
	(c) Any knowledge, not limited to a specific subject area, technical or medical field, originating from a traditional community, individual or group	Guatemala[146]	
	(d) Knowledge contained in the codified knowledge systems passed on from one generation to another including agricultural, environmental or medical knowledge	Kenya[147]	
3.1.2 Excluding from traditional knowledge (relevant to GRFA)	ABS measures may exclude from TK:		
	(a) TK that cannot be attributed to one or more traditional communities	France[148]	
	(b) TK associated with GR whose properties are well known and have been used for a long time and repeatedly, outside of the traditional communities that share them	France[149]	
	(c) TK associated with some promotion methods likely to benefit agricultural, forestry or food and seafood products	France[150]	
	(d) TK and skills associated with the distinctive signs of origin and quality of agricultural and marine products	Morocco[151]	
	(e) TK insufficiently exploited by rights holder, or to which rights holder refuses to grant a licence on reasonable commercial terms and conditions	Zambia;[152] Kenya[153]	Humphries *et al*., 2021, p27; Kamau, 2022b, p281f
	(f)		

	Measure	Country (examples)	Further reading
3.2 Identifying the correct holders of TK			
Countries have established different procedures for the identification of the correct holders of TK	Measures to assist in the identification of correct holders:		
	(a) Government to ensure that PIC has been obtained from "relevant community"	Malawi[154]	
	(b) Public entities representing the IPLCs to negotiate with users	France;[155] Ethiopia;[156] South Africa[157]	Mahop, 2022, p470f; Hailu & Kamau, 2022, p257
	(c) Biocultural protocols	India;[158] Kenya[159]	Humphries *et al*., 2021, p42
	(d) Public authority assisting in identification of correct knowledge provider and overseeing the agreement	Uganda[160]	Humphries *et al*., 2021, p42
	(e) State intervention (and guidance) to ensure that PIC has been obtained from the "relevant community"	Viet Nam;[161] Malawi;[162] Uganda[163]	Humphries *et al*., 2021, p42f.
3.3 Procedures for obtaining prior informed consent (PIC) or approval and involvement of IPLC			
	For obtaining consent to access/use TK, ABS measures may foresee:	See above 2.3	Humphries *et al*., 2021, p43
	(a) Same procedures as for GR;	See above 2.3	Humphries *et al*., 2021, p43
	(b) Licensing procedures (in laws that protect TK as form of intellectual property right);	Kenya; Peru; South Africa; Viet Nam; Zambia	Humphries *et al*., 2021, p43
	(c) Existence of biocultural or community protocols specific to GRFA;	e.g. Peru; Romania; South Africa; Kenya	Humphries *et al*., 2021, p43; Cocchiaro & Rutert, p29–40; Kamau, 2022b, p290f, 306
	(d) Involvement/consultation of IPLC in neighbouring countries.	Kenya[164]	Humphries *et al*., 2021, p44; Kamau, 2022b, p306

	Measure	Country (examples)	Further reading
ELEMENT 4: FAIR AND EQUITABLE SHARING OF BENEFITS			
4.1 Scope of benefit-sharing obligations			
4.1.1 GR/ TK covered *Some countries require benefit-sharing for GR/TK newly accessed; others require benefit-sharing also for previously accessed GR/TK, if newly utilized*	Benefit-sharing may apply to:		
	(a) GR/TK accessed after entry into force of ABS measure	most countries	
	(b) Newly utilized GR/TK accessed prior to entry into force of ABS measure	Malaysia[165]	
4.1.2 Exemptions from benefit-sharing obligations	ABS measures may exempt from benefit-sharing obligations, for example:		
	(a) Resources not falling under (access provisions of) ABS measures, see 2.1		
	(b) Activities not considered "utilization", see 2.2		
	(c) Traditional farmers and their cooperatives	Brazil[166]	Humphries *et al*., 2021, p45 ; Mozini, 2022, p86
	(d) Non-commercial research	Australia[167]	Humphries *et al*., 2021, p45
4.2 Fair and equitable			
4.2.1 Determination of benefits	ABS measures may:		
	(a) Provide detailed modalities for benefit-sharing, or	India[168]	Humphries *et al*., 2021, p45
	(b) Mandate competent authority to determine benefit-sharing modalities on case-by-case basis	Rwanda;[169] Solomon Islands[170]	Humphries *et al*., 2021, p45
4.2.2 Streamlined benefit-sharing	ABS measures may provide for simplified benefit-sharing, for example, for:		
	(a) Scientific, non-commercial research on agrobiodiversity	Philippines[171]	Humphries *et al*., 2021, p45
	(b) Purely scientific research purposes	Argentina[172]	Silvestri, 2022a, p62f.

	Measure	Country (examples)	Further reading
	(c) For forest genetic resources (deference of benefit-sharing arrangements until there are breeding results)	Spain[173]	Humphries *et al*., 2021, p32
4.2.3 Sharing monetary and non-monetary benefits resulting from GRFA			
ABS measures may provide for sharing of monetary and non-monetary benefits	ABS measures may specify benefit-sharing modalities for GRFA:		
	(a) Preference and identification of benefits that are of particular relevance to the food and agriculture sector	India;[174] Uganda;[175] Malaysia;[176] Belgium (Walloon Region);[177] Zambia[178]	Humphries *et al*., 2021, p48
	(b) Mutual exchanges of GRFA within or between communities to sustain food or livelihood systems as a benefit	Mutual exchanges, e.g. India;[179] Kenya;[180] Traditional uses, e.g. Ethiopia[181]	Humphries *et al*., 2021, p49
4.2.4 Facilitating benefit-sharing through model clauses	Examples include:		
	(a) National model benefit-sharing clauses	Benin;[182] Cameroon;[183] France;[184] South Africa[185]	Humphries *et al*., 2021, p46; ABSCH 2022
4.3 Beneficiaries			
ABS measures often do not define in detail the beneficiaries (those with whom benefits have to be shared) or the purposes for which benefits should be used. However, some ABS measures provide for national benefit-sharing funds for specific situations.			
4.3.1 National benefit-sharing funds	ABS measure may establish benefit-sharing funds for:		
	(a) Conservation of and further research in GR and TK	South Africa;[186], Bhutan	Kamau, 2022a, p172f, 200f.
	(b) Support of community conservation initiatives	Bhutan	National Biodiversity Centre, Bhutan, 2018, p32; Humphries *et al*., 2021, p47
	(c) Support IPLCs and traditional farmers in the sustainable management and conservation of GR and the development and maintenance of diverse farming systems that enhance the sustainable use of GR	Brazil[187]	Humphries *et al*., 2021, p47f.; Mozini, 2022, p86
4.4 Sharing benefits through funds/partnerships/multilateral benefit-sharing mechanisms			

	Measure	Country (examples)	Further reading
ELEMENT 5 : COMPLIANCE AND MONITORING			
5.1 Monitoring			
	(a) GRFA-specific checkpoints	e.g. Bhutan, Estonia, Hungary, Kenya, Republic of Korea[188]	Humphries *et al*., 2021, p53
5.2 User country compliance measures			
5.2.1 General compliance measures	(a) Due diligence	EU[189]	Humphries *et al*., 2021, p53
	(b) Specific measures to ensure GRFA used in the country must have been accessed according to the SMTA of the Treaty	Norway[190]	
	(c) Designation of user compliance-focused checkpoints	Malaysia;[191] South Africa[192]	
	(d) Requirement to report to the checkpoint or produce the access permit	Malaysia;[193] Republic of Korea;[194] South Africa[195]	
	(e) Requirement of the checkpoint to inform Competent National Authority can) or relevant Competent Authority (CA) in writing of the production of the permit	Malaysia[196]	
	(f) Requirement of any person applying for a patent based on biological resources (BR) or TK to either notify the CA, make a statement if the patent relates to indigenous GR or TK, or furnish CA with proof	Malaysia;[197] South Africa[198]	
	(g) Obligation on any person wishing to access or commercialize foreign BR or TK from a Nagoya Protocol party to ensure compliance with that party's laws – if that party subjects access to permit	Malaysia;[199] Republic of Korea[200]	
	(h) Measure for checkpoint communiqué	Malaysia[201]	
	(i) Measures permitting relevant authorities to investigate offences	Malaysia;[202] Republic of Korea[203]	
	(j) Measure to encourage fair and equitable benefit-sharing	Republic of Korea[204]	

	Measure	Country (examples)	Further reading
5.2.2 Exceptions	(a) Providing state does not exercise sovereign rights over GR/TK[205] (b) Providing state is not a party to the Nagoya Protocol[206] (c) Providing state has not established access measures[207] (d) GR accessed prior to 12 October 2014[208] (e) GR governed by specialized international instruments and utilized according to the purposes foreseen by those instruments[209] (f) GR traded and exchanged as commodities[210] (g) Pathogenic GR and pests introduced unintentionally to the country[211] (h) TK not associated with utilization of accessed GR (i) Activities not falling under "utilization"[212] (j) Derivatives when there is no ascertainable level of continuity between it and the GR from which it was obtained for R&D activities on derivatives[213] (k) Information on GR[214] (l) Utilization outside of jurisdiction[215]	EU and Member States[216]	Winter, 2022; Greiber & Frederichs, 2022

[1] Loi sur l'acces aux ressources genetiques et connaissances traditionnelles de l'union des Comores, 2020, Art. 5.
[2] Direction Générale des Eaux, Forêts et Chasse/Ministère du Cadre de Vie et du Développement Durable (General Directorate of Water, Forests and Hunting/Ministry of Living Environment and Sustainable Development) is the only designated CNA for the country responsible for all genetic resources. See https://absch.cbd.int/en/countries/BJ (accessed 12 October 2022).
[3] The Nagoya Protocol (Implementation) Act, 2016, Art. 4 (read together with Regulation of the Minister for Agriculture of 31 March 2016, No. WJZ/15145152 and Decree of the Minister for Agriculture of 31 March 2016, No. WJZ/15163191.
[4] Decreto-Lei-122-2017, Art. 4.1. See also https://absch.cbd.int/en/countries/PT (accessed 15 October 2022).
[5] Ministry of Agriculture, Food and Forestry (for agricultural and forest genetic resources) and Ministry of Environment and Water (for genetic resources from naturally occurring species). See https://absch.cbd.int/en/countries/BG (accessed 12 October 2022).
[6] The Biodiversity Bill of Bhutan, 2021, cl. 11 [Adopted.) https://www.nationalcouncil.bt/assets/uploads/docs/bills/2022/Biodiversity_Bill_of_Bhutan_2021_Eng_Dzo.pdf. Ministry of Agriculture and Forests is the only designated CNA for the country responsible for all genetic resources. See https://absch.cbd.int/en/countries/BT (accessed 15 October 2022).
[7] Decree on the Management of Access to Genetic Resources and the Sharing of Benefits Arising from their Utilization, 12 May 2017, Chapter II, Art. 6. The Ministry of Agriculture and Rural Development is responsible for granting, renewing and withdrawing licences for genetic resources for agricultural crop varieties, livestock, aquatic species and forest seedlings. See https://absch.cbd.int/en/countries/VN (accessed 10 October 2022).
[8] Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment Botanical Gardens is the only designated CNA for the country responsible for all genetic resources. See https://absch.cbd.int/en/countries/GD (accessed 12 October 2022).
[9] Department of Environment, Ministry of Agriculture, Marine Resources, Cooperatives, Environment and Human Settlement is the only designated CNA for the country responsible for all genetic resources. See https://absch.cbd.int/en/countries/KN (accessed 10 October 2022).
[10] Instituto Nacional de Innovación Agraria is the authority responsible for access to genetic resources, molecules, combination or mixture of natural molecules, crude extracts and derivatives of cultivated or domesticated inland species. See https://absch.cbd.int/en/countries/PE (accessed 10 October 2022).
[11] Ley General de Desarrollo Forestal Sustentable, 25 February 2003 (11, fracción XVII y XXXVI; 7, fracción XXX, L y LXVIII; 20, fracción XXXIII; 32, fracción XV; 69, fracción IV; y 128); Reglamento de la Ley General de Desarrollo Forestal Sustentable, 21 February 2005 (4o, fracción III, Sección IV Colecta de Recursos Biológicos Forestales). Dirección General de Gestión Forestal y de Suelos (Directorate General for Forestry and Soil Management) is responsible for permits for collection of forest biological and genetic resources. See https://absch.cbd.int/en/countries/MX and https://absch.cbd.int/en/countries/MX/MSR (accessed 12 October 2022).
[12] Projet de decret sur l'acces aux ressources genetiques et le partage juste et equitable des avantages qui en decoulent, 2017, Arts 15-17
[13] Ethiopia (2006) Proclamation No. 482/2006 Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation; Ethiopia (2009) Regulation No. 169/2009 Access to Genetic Resources and Community Knowledge, and Community Rights. The Ethiopian Biodiversity Institute is the CNA.
[14] LOV nr 1375 af 23/12/2012 om udbyttedeling ved anvendelse af genetiske ressourcer see e.g. Arts 5-8.
[15] Reglamento de acceso a recursos genéticos, conocimientos tradicionales asociados y distribución justa y equitativa de beneficios de larepública dominicana, Art. 7
[16] Governmental Agreement 171-2014 (Government Agreement 171-2014), Art. 1. Consejo Nacional de Áreas Protegidas (National Council for Protected Areas) is the designated CNA responsible for all genetic resources. See https://absch.cbd.int/en/countries/GT (accessed 12 October 2022).
[17] The National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, Art. 5. Ministry of State for Environment Affairs (MOEN). See also https://absch.cbd.int/en/countries/SY (accessed 12 October 2022).
[18] Uganda National Council for Science and Technology. See https://absch.cbd.int/en/countries/UG (accessed 12 October 2022).
[19] Department of Science, Ministry of Education and Sports (CNA). See https://absch.cbd.int/en/countries/LA (accessed 12 October 2022). According to Art. 6 of the National Framework on ABS of 2013, the Ministry of Science and Technology is the management and monitoring organization on ABS at the central level.
[20] Ley 28216, Ley de Protección al acceso a la diversidad biológica peruana y los conocimientos colectivos de los pueblos indígenas, 7 April 2004, Art. 2; El Reglamento de Acceso a los Recursos Genéticos (D.S Nº 003-

2009-MINAM), 6 February 2009, Art. 13. See also CBD, 2022, https://absch.cbd.int/en/countries/PE/MSR (accessed 13 October 2022).
[21] Biodiversity Law NO. 7788, Gazette No 101, 27 May 1998, Chapter I, II and V, National Commission for Biodiversity Management (CONAGEBIO) Ministry of Environment and Energy (MINAE) is the only designated CNA for the country responsible for all genetic resources. See https://absch.cbd.int/en/countries/CR/CNA (accessed 10 October 2022).
[22] Ethiopia (1998) Proclamation No. 120/1998 Institute of Biodiversity Conservation and Research, Articles 3 and 6. See also Ethiopia (2006) Proclamation No. 482/2006 Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation; Ethiopia (2009) Regulation No. 169/2009 Access to Genetic Resources and Community Knowledge, and Community Rights. The Ethiopian Biodiversity Institute is the only CNA responsible for all genetic resources and community knowledge.
[23] Decree No. 59 2017, Art. 6.1 & 26 (Agriculture/Environment).
[24] Act on Genetic Resources 2017, Art. 8 (1) 2 (Agriculture/ Fisheries/ Environment/ Science/ Health).
[25] Nature Conservation Act 2017, Art. 68 (2). Ministry of Environment for wild genetic resources and TK associated with them, and Ministry of Rural Affairs for genetic resources of agriculture and TK associated with them. See also https://absch.cbd.int/en/countries/EE (accessed 13 October 2022).
[26] Forestry/Environment. See https://absch.cbd.int/en/countries/ZW (accessed 13 October 2022).
[27] National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 87A as amended by section 22 of Act 14 of 2013 and Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), r. 6 (1) & (2). Permits for non-commercial research to be undertaken abroad are issued by the so-called Member of Executive Council (MEC). No permit is required for research undertaken in South Africa for this type of research. For commercial purposes DEA/DEFF is responsible.
[28] Organic Code of the Social Economy for Knowledge, Creativity and Innovation, 2016, Arts 47, 68 & 69.
[29] In Ecuador, relevant for granting access to genetic resources and permission for purely scientific/basic/academic/non-commercial research are three different governmental authorities. See Beck, 2022, p496f, 500ff.
[30] Uganda: National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, Art. 5 (Uganda National Council for Science and Technology (UNCST)).
[31] Regulamento sobre Acesso e Partilha de Benefícios Provenientes de RecursosGenéticos e Conhecimento Tradicional Associado 2007, Art. 4 (Minister for the Coordination of Environmental Action).
[32] National Biodiversity Coordination Committee (NBCC).
[33] Brazil: Law nº 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 6 (The Genetic Heritage Management Council (CGen)).
[34] Implementing Regulation for the Organic Code of the Social Economy for Knowledge, Creativity and innovation, 2017, Chapter III, Art. 25.
[35] The Biological Diversity Act 2002, *inter alia* s. 3 & 4, and Guidelines on Access to Biological Resources and Associated Knowledge and Equitable Sharing of Benefits Regulations, 2019, s. 1(1).
[36] Ley Sectorial De Biodiversidad (333-15) 2016, Art. 12, and also Reglamento de Acceso a Recursos Genèticos y Distribución de Beneficios (ABS) de la República Dominicana 2018.
[37] Bioprospecting Forum.
[38] Foundation for Research on Biodiversity.
[39] National Environment Management Authority ABS Permit Committee.
[40] National Biodiversity Centre of Bhutan.
[41] Genetic resources and legislation in Finland, http://www.biodiversity.fi/geneticresources/home (accessed 16 October 2022).
[42] The Danish Environmental Protection Agency – The Nagoya Protocol on Access and Benefit-sharing, https://eng.mst.dk/nature-water/nature/biodiversity-the-building-block-of-life/the-nagoya-protocol-on-access-and-benefit-sharing/ (accessed 16 October 2022).
[43] Korean ABSCH "ABSCH Genetic Resources Information Center", https://www.abs.go.kr/kabsch/main.do (accessed 16 October 2022).
[44] Biodiversity Clearing-House Mechanism, https://www.biodiv.hu/hu (accessed 16 October 2022).
[45] National ABS Clearing House for Cameroon, https://portailchm.sie.cm/abs/ (accessed 16 October 2022). Law N°2021/014 of July 2021 To Govern Access to Genetic Resources, Their Derivatives, Traditional Knowledge Associated with Genetic Resource and Their Fair Equitable Sharing of the Benefit Arising from Their Utilization, s35.
[46] Access to Biological Resources and Benefit Sharing Act 2017, s. 4.
[47] Ministry of Higher Education, Research and Innovation, 2019.
[48] German ABS Information Platform, https://www.bfn.de/nagoya-protokoll (accessed 16 October 2022).

[49] Comisión Nacional para la Gestión de la Biodiversidad (CONAGEBIO), 2018, https://www.conagebio.go.cr/Conagebio/public/ (accessed 16 October 2022).
[50] Access and Benefit Sharing Portal for Kenya, http://meas.nema.go.ke/abs/ (accessed 16 October 2022).
[51] Qatar plant gene bank information system, http://web1.mme.gov.qa/qatargb/hotline (accessed 16 October 2022).
[52] Access to Biological Resources and Benefit Sharing Act 2017, s. 63 (3) - (4).
[53] EU : Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union. OJ 2014 L 150/59 (hereinafter Regulation (EU) 511/2014), Art. 2 (1).
[54] Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, s. 2 (2) (c).
[55] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412−6.
[56] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Article 37 Art. L. 412−4(6).
[57] Regulamento sobre Acesso e Partilha de Benefícios Provenientes de Recursos Genéticos e Conhecimento Tradicional Associado 2007, 2007, Art. 2(o).
[58] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, s. 2. In Uganda domesticated or cultivated species are determined in the "cultural contexts in which their specific properties have been developed".
[59] The ABS legislation does not make reference to domesticated species but a clarification has been made by the government.
[60] Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization Art. 3(10). Species has been acclimated for a long time, adaptive to the living conditions as a local variety, and is now widely cultivated.
[61] Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1); Environment Protection and Biodiversity Conservation Act 1999, s. 528.
[62] Decree No. 8.772 of May 11, 2016, regulating Law No. 13.123 of May 20, 2015, Art. 2.
[63] Colombia, 2014, Art. 2.
[64] Nature Conservation Act 2014 (ACT) Sections 169, 206, 207, 209 and Biodiversity Conservation Regulation 2018 (WA), Section 72(3).
[65] Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, Art. 2 (2) (b).
[66] Biodiversity Act of Bhutan 2003. Bhutan ABS Policy 2015, Section 6(k) defines "genetic resources" to include the "biochemical composition of genetic resources, genetic information and derivatives."
[67] For country measures defining IPLC, ways to determine the correct rights holder and procedures to obtain PIC or approval and involvement of IPLC, see below Element 3.
[68] South Africa: National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 82 (1) (a), (b); (2) (a); (3) (a).
[69] Access to Biological Resources and Benefit Sharing Act 2017, s. 23.
[70] Kenya: Protection of Traditional Knowledge and Cultural Expressions Act No. 33, 2016 (PTKCEA), s. 36 (1), 4.
[71] Act No. 27.811, 2002 establishing the regime for the protection of collective knowledge of Indigenous Peoples associated to biological resources (Peru), Art. 6.
[72] Spanish Constitution, Art. 148.1.9; Law No. 42/2007, of 13 December, on Natural Heritage and Biodiversity, modified by Law No. 33/2015, of 21 September. Official Journal of Spain No. 227, 22 September 2015, pp 83588–83632, Art. 68.2; Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization. Official Journal of Spain No. 62, 14 March 2017, pp 18478-18499, Art. 5.2.
[73] Regulation of the Minister of Environment No. 34/MenLHK/Setjen/Kum.1/2017 on Recognition and Protection of Local Wisdom in The Management of Natural Resources and the Environment 2017, Art. 24 (2).
[74] Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 30 (3). The provision foresees possibility of a compulsory licence to fulfil a national need, subject to compensation to the holder.
[75] Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina. 22 October 2019. OJ No. 34225, Art. 6.

[76] Decreto Supremo N° 003-2009-MINAM. Eleva al rango de Decreto Supremo la Resolución Ministerial N° 087-2008-MINAM y ratifican la aprobación del Reglamento de Acceso a los Recursos, efectuada por dicha Resolución2009, Art. 5 (narrow exclusion).
[77] Regulation (EU) 511/2014, Art. 2 (2).
[78] Access to Biological Resources and Benefit Sharing Act 2017, Act 795, s. 5(2)(g).
[79] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412−5II.
[80] Decree-Law No. 118/2002 of 20 April 2002, Art. 2(1).
[81] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, Section 4c).
[82] The Seeds and Plant Varieties Act, 2006, s. 3(b)).
[83] Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina. 22 October 2019. OJ No. 34225, Art. 6
[84] Biodiversity Act of Bhutan 2003, s. 4(d)).
[85] Loi n 2016-1087 du 8 aout 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et équitable des avantages 2016, Art. 37 Art. L. 412−5II.
[86] Ibid.
[87] Ibid.
[88] Projet de loi sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation(undated), Art. 5.
[89] Biodiversity Act of Bhutan, s. 4(d)).
[90] Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ No. 62, 14 March 2017, Art. 3(2) (if they are governed under other legislation).
[91] Environment Protection and Biodiversity Conservation Regulation 2000, Reg. 8A.05(1)(a)
[92] Ibid, Reg. 8A.05(1)(a)).
[93] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, Art. 16; Guidelines on Access to Biological Resources and Associated Knowledge and Equitable Sharing of Benefits Regulations, 2019.
[94] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412−5.III(4).
[95] Biological Diversity Act 2002, s. 40 allows Central Government to exclude such biological resources.
[96] Implied by Art. 1 of Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization. According to Trang, Ba Nguyen T. and Thu 2022, p. 329, there are no PIC and MAT for access to derivatives when accessed without genetic resources.
[97] Legal Notice 379 of 2016 – Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, Art. 2 (2) (g).
[98] Access to Biological Resources and Benefit Sharing Act 2017, s. 5.
[99] National Environmental Management: Biodiversity Act, No. 10 of 2004, s. 1.
[100] Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, s. 2(2)(b).
[101] Biodiversity Act 2017, s. 35.
[102] Joint IPOPHL-NCIP Administrative Order No. 01, 2016: Rules and Regulations on Intellectual Property Rights Application and Registration Protecting the Indigenous Knowledge Systems and Practices of the Indigenous Peoples and Indigenous Cultural Communities 2005, s. 3.
[103] National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), GoN R149, G. 30739.
[104] Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1)).
[105] Access to Biological Resources and Benefit Sharing Act 2017, s. 5.
[106] Royal Decree No. 289/2003, of 7 March, on commercialization of reproduction forest materials, as long as there is no utilization of the genetic resources and no transfer to third parties for a different use, OJ No. 58, 8 March 2003; Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization, OJ No. 62, 14 March 2017, Art. 3(3). The latter excludes from ABS obligations "activities of production and marketing of seeds and forest plants, regulated by Royal Decree 289/2003 of 7 March, commercialization of forest material for reproduction, provided that there is no use of genetic resources, and provided that there is no transfer to third parties for other use".
[107] Nature Diversity Act 2009, s. 58.
[108] Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization, OJ No. 62, 14 March 2017, Art. 3(3).
[109] Ibid.

[110] The Biological Diversity Act, s. 40 allows for the exclusion.
[111] Utah Bioprospecting Act, 2010, s. 65A 14−102.
[112] Biodiversity Act 2017, s. 35.
[113] Protected Areas Act 2010, s. 2 (provides for simplified procedure for GRFA research).
[114] Access to Biological Resources and Benefit Sharing Act 2017, s. 5 (2)(g).
[115] Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, r. 3.
[116] Normativo de Investigaciones e Investigadores de la Diversidad Biológica 2020, Art. 25.
[117][117] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 4(2) & 3.2.
[118] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17 (Indian law covers biological resources).
[119] Access to Biological Resources and Benefit Sharing Act 2017, s. 6.
[120] Regulation of Access to Genetic Resources and Benefit-sharing (draft law), Art. 30.
[121] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 13 (simplified ABS procedures).
[122] Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, r. 3(a)(d).
[123] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17(b).
[124] National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 86 (1) (a); Government Gazette 30739. Commencement date: 8 February 2008.
[125] Law nº 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 11 III.
[126] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412−17 III.
[127] Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), Annexure 11, c. 9.
[128] National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), Annexures 7 and 8.
[129] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, s. 15.
[130] Joint DENR-DA-PCSD- NCIP Administrative Order No. 01, Series of 2005: Guidelines for Bioprospecting Activities in the Philippines, Annex 2. Mainly for third party transfers and IP protection.
[131] Andean Community Decision: Common Regime on Access to Genetic Resources, 1996, Art. 36.
[132] Decreto Supremo N° 003-2009-MINAM. Eleva al rango de Decreto Supremo la Resolución Ministerial N° 087-2008-MINAM y ratifican la aprobación del Reglamento de Acceso a los Recursos, efectuada por dicha Resolución 2009, Arts 24−26: authorization of access to and utilization of a specific range of GR, possibly limited to specific purposes, accommodating international exchange that involve close working collaborations and partnerships with many stakeholders.
[133] Joint IPOPHL-NCIP Administrative Order No. 01, 2016: Rules and Regulations on Intellectual Property Rights Application and Registration Protecting the Indigenous Knowledge Systems and Practices of the Indigenous Peoples and Indigenous Cultural Communities 2005, s. 3 (simplified procedure applies to wild and exotic species used for this purpose).
[134] Ibid, s. 3 (1).
[135] Law nº 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 11 (3) (implied).
[136] Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization. Official Journal of Spain No. 62, 14 March 2017, Art. 3(3).
[137] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412−5 III(4).
[138] Genetic Resources Act 2017, Art. 10.
[139] Joint DENR-DA-PCSD Administrative Order No. 1, May 18, 2004 Joint Implementing Rules and Regulations (IRR) Pursuant to Republic Act No. 9147, s. 15(3).
[140] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 13.
[141] Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina. 22 October 2019, OJ No. 34225, Art. 8 (including by non-requirement of establishment of MAT (Argentina, Annex III)).
[142] Mexico's ABS law, according to de la Torre, 2016.
[143] The definition of "Research other than bioprospecting" in the Bioprospecting, Access and Benefit-Sharing Regulations 2008 (accessed 4 November 2022. The version of 2008 was repealed but the one of 2015 continues

to use the term, albeit without defining it afresh) read together with the catalogue of the South African National Biodiversity Institute (SANBI) on non-bioprospecting research activities. The latter is available online at https://www.sanbi.org/resources/infobases/biodiversity-collection-permits-in-south-africa/ (accessed 4 November 2022).

[144] Peru: Act No. 27.811, 2002 establishing the regime for the protection of collective knowledge of Indigenous Peoples associated to biological resources 2001, Art. 2.

[145] Biodiversity Law, 2008, Art. 3(28).

[146] Normativo de Investigaciones e Investigadores de la Diversidad Biológica 2020, Art. 2(f).

[147] Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, s. 2.

[148] Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accés aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37, Art. L- 412-5.

[149] Ibid.

[150] Ibid.

[151] Avant Projet de loi n° 56-17 sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation (undated), Art. 5 (draft law).

[152] Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 30(3)).

[153] Protection of Traditional Knowledge and Cultural Expressions Act No. 33, 2016 (PTKCEA), s. 22(2): compulsory licence possible.

[154] Procedures and Guidelines for Access and Collection of Genetic Resources in Malawi 2002 (under heading E, 8). Available online at https://absch.cbd.int/api/v2013/documents/0D99AF1D-68C7-153A-3E31-2D7CB1534221/attachments/211881/Malawi-access96.pdf (accessed 15 October 2022).

[155] Décret n° 2017-848 du 9 mai 2017 relatif à l'accès aux ressources génétiques et aux connaissances traditionnelles associées et au partage des avantages découlant de leur utilisation, 2017, Art. 1 Art R. 412−28 – I (MAT).

[156] Ethiopian Biodiversity Institute (EBI).

[157] Act No. 6 of 2019: Protection, Promotion, Development and Management of Indigenous Knowledge Act 2019 (BSA: South Africa establishes the National Indigenous Knowledge Systems Office that issues licences for the use of TK and assists communities in negotiating BSA).

[158] Raika Biocultural Protocol 2009. See http://www.pastoralpeoples.org/wp-content/uploads/2020/01/Raika_Biocultural_Protocol.pdf (accessed 15 October 2022).

[159] Samburu Community Protocol, 2009. See http://community-protocols.org/wp-content/uploads/documents/Kenya-Samburu_Community_Protocol.pdf (accessed 15 October 2022).

[160] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, 2005, s. 10.

[161] Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization 2017, Art. 6.1, 26.

[162] Procedures and Guidelines for Access and Collection of Genetic Resources in Malawi 2002 (under heading E, 8). Available online at https://absch.cbd.int/api/v2013/documents/0D99AF1D-68C7-153A-3E31-2D7CB1534221/attachments/211881/Malawi-access96.pdf (accessed 15 October 2022).

[163] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, s. 10.

[164] NEMA (2014b) Kenya's Access and Benefit Sharing Toolkit for Genetic resources and Associated Traditional Knowledge, Nairobi, 2014, p58. Available online: https://absch.cbd.int/api/v2013/documents/F3AB1BBD-08C1-4E30-1BA7-6562A31098FE/attachments/203706/ABS%20TOOL%20KIT%20FINAL.pdf (accessed 15 October 2022); Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation 2006, First Schedule, 2.0 (a) (can be interpreted as striving towards such cooperation in East Africa).

[165] Access to Biological Resources and Benefit Sharing Act 2017, s. 63 (3) - (4).

[166] Law No. 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge) 2015, Art. 17(5)(II) (exempts farmers with annual gross income equal to or less than a prescribed maximum limit).

[167] Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.12.

[168] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, see ss. 3–15.

[169] Official Gazette No 38 of 23/09/2013 Law No. 70/2013 of 02/09/2013 Governing Biodiversity in Rwanda 2013.

[170] Protected Areas Act 2010.

[171] Joint DENR-DA-PCSD Administrative Order No. 1, May 18, 2004 Joint Implementing Rules and Regulations (IRR) Pursuant to Republic Act No. 9147 2004, s. 15 (no benefit-sharing obligations, except requirement to collaborate with local researcher as a form of benefit-sharing).
[172] Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina. 22 October 2019. OJ No. 34225 (PIC by province may nonetheless be required).
[173] Spanish Government 2021. Ministry for the Ecological Transition and the Demographic Challenge. According to pers. comms by Humphries *et al.,* 2021, p. 32.
[174] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, Annexure 1.
[175] National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, s. 20(2)(h).
[176] Access to Biological Resources and Benefit Sharing Act 2017, s. 11(2)(14)).
[177] the Walloon Region in Belgium (Décret relatif à l'accès aux ressources génétiques et au partage juste et équitable des avantages découlant de leur utilisation 2020, Annexes 1 and 2).
[178] Ibid.
[179] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17 (c).
[180] Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, s. 3(a).
[181] Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation No. 482/2006, Federal Negarit Gazeta Year 13 No. 13, 27 February, 2006, Art. 8(1).
[182] Model contractual documents are uploaded on the ABSCH at https://absch.cbd.int/en/countries/BJ (accessed 20 October 2022).
[183] Model contractual documents are uploaded on the ABSCH at https://absch.cbd.int/en/countries/CM/PRO (accessed 20 October 2022).
[184] A pdf version of "Model contract for benefit-sharing from the use of genetic resources" has been uploaded on the ABSCH at https://absch.cbd.int/en/countries/FR/NMCC (accessed 20 October 2022).
[185] A word version model of "Benefit sharing agreement has been uploaded on the ABSCH at https://absch.cbd.int/en/countries/ZA/NMCC (accessed 20 October 2022).
[186] National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 85; Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), r. 40.
[187] Brazil: Law nº 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 30.
[188] Genetic Resources Act 2017, Art. 13 (1) 2.
[189] EU : Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union. OJ 2014 L 150/59 (hereinafter Regulation (EU) 511/2014).
[190] Norway, Nature Diversity Act 2009, s. 59.
[191] Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
[192] https://absch.cbd.int/countries/ZA/CP (accessed 9 November 2022).
[193] Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
[194] Genetic Resources Act 2017, Art. 15 (1).
[195] Ibid.
[196] Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
[197] Access to Biological Resources and Benefit Sharing Act 2017, s. 31.
[198] Patents Amendment Act of 2015, s. 3A, 3B.
[199] Access to Biological Resources and Benefit Sharing Act 2017, s. 34.
[200] Genetic Resources Act 2017, Art. 14, 15 (2).
[201] Access to Biological Resources and Benefit Sharing Act 2017, s. 34.
[202] Access to Biological Resources and Benefit Sharing Act 2017, s. 35, 38, 40–44.
[203] Genetic Resources Act 2017, Art. 16.
[204] Genetic Resources Act 2017, Art. 14 (2).
[205] Regulation (EU) 511/2014, Art. 2 (1); Guidance document, s. 2.1.1.
[206] Regulation (EU) 511/2014, Art. 2 (4); Guidance document, s. 2.1.2.
[207] Regulation (EU) 511/2014, Art. 2 (4); Guidance document, s. 2.1.2.
[208] Guidance document, s. 2.2.
[209] Regulation (EU) 511/2014, Art. 2 (2); Guidance document, s. 2.3.1.1.
[210] Guidance document, s. 2.3.1.3.

[211] Guidance document, s. 2.3.1.5.
[212]Guidance document, s. 2.3.3.2.
[213] Guidance document, s. 2.3.4.
[214] Guidance document, s. 2.3.5.
[215]Guidance document, s. 2.5.
[216] Regulation (EU) 511/2014, Art. 4.

APPENDIX II

DRAFT ONLINE QUESTIONNAIRE ON THE IMPLICATIONS OF ACCESS AND BENEFIT-SHARING MEASURES FOR THE USE AND EXCHANGE OF GENETIC RESOURCES FOR FOOD AND AGRICULTURE AND FOR BENEFIT-SHARING

Part A: General information	
1	**Please provide some background information about yourself and/or the institution you work for or represent. Please identify your role in responding to this survey.**
	GROUP I (Commission Members/National Focal Points or Coordinators): • FAO Commission Member • National Focal Point for the Commission on Genetic Resources for Food and Agriculture • National Coordinator for Animal Genetic Resources for Food and Agriculture • National Focal Point for Aquatic Genetic Resources for Food and Agriculture • National Focal Point for Forest Genetic Resources • National Focal Point for Plant Genetic Resources for Food and Agriculture • National Focal Point for Biodiversity for Food and Agriculture **GROUP II (Stakeholders/user communities):** • Intergovernmental organization • Public research organization/Academia/University • *Ex situ* (genebank) collection • Genome database • Farmer organization • Fisher organization • Livestock keeper organization • Forester organization • Private sector • Responding as an individual e.g. researcher • Other (*please provide details*) **GROUP III: Indigenous Peoples and Local Communities (IPLC)**
2	**Please provide the title and address of the entity you represent or where you work. We may contact you for further information.**
	Full name
	Title
	Name of entity/IPLC:
	Street
	City
	Postcode
	Country
3	**May we contact you for further information?** Yes, no
	If yes, please provide contact information: o Phone o Email

Part B.1: Application of national legislative, administrative and policy measures on access and benefit-sharing to genetic resources for food and agriculture	
4	**Groups I & II: Does your country currently have legislative, administrative and/or policy measures on access and benefit-sharing (ABS measures) in place, which require prior informed consent and fair and equitable benefit-sharing for access to genetic resources for research and development on their genetic and/or biochemical composition?** Yes, no, I don't know
	If yes, do the ABS measures of your country apply to genetic resources for food and agriculture (GRFA)? Yes, no, I don't know
5	**Do the ABS measures of your country include special provisions for (specific or all) GRFA?** Yes, no, I don't know
	(a) If yes, please identify the genetic resources for which the ABS measures of your country provide special provisions: • All genetic resources for food and agriculture • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
	(b) If yes, please identify the type(s) of special provisions and the GRFA to which they apply: • Exemptions of GRFA from scope of the ABS measures If yes, please specify relevant GRFA • Special (e.g. simplified) authorization procedures for GRFA and/or activities related to GRFA If yes, please specify procedure, relevant GRFA and/or activities related to GRFA • Special provisions on benefit-sharing If yes, please specify provisions and relevant GRFA • Other provisions for GRFA If yes, please specify provision(s) and relevant GRFA
6	**Do the ABS measures of your country apply to privately held genetic resources?** Yes, no, I don't know? (a) If yes, do they also apply to privately held GRFA? Yes, no, I don't know
7	**Groups I & II: Have special measures been taken to inform stakeholders who utilize GRFA for research and development on ABS measures, as they apply to GRFA?** Yes, no, I don't know
	If yes, how have stakeholders been informed? • ABS Clearinghouse (https://absch.cbd.int/en/) • National Clearinghouse • Information seminars • Guidance documentation
	• Other (if other, please provide details)
8	**Groups I & II: Has your country granted ABS permits for the use of genetic resources for research and development?** Yes, no, I don't know
	(a) If yes, how many ABS permits has your country granted for the use of GRFA for research and development? • Less than 10

	• Less than 50 • More than 50
	(b) Please specify the GRFA for which ABS permits have been granted by your country (*Please specify all that apply*): • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
9	**Groups I & II: Do the ABS measures of your country distinguish between commercial use of genetic resources and use for research/academic purposes?** Yes, no, I don't know
	(a) If yes, for which genetic resources do the ABS measures distinguish between commercial use and use for research/academic purposes? • All • GRFA • Pathogens
	• Other (please specify)
	(b) If yes, for which purposes have most ABS measures been granted as of 1 January 2023? • Commercial purposes • Research/academic purposes
	• Other purposes (if for other purposes, please provide details)

Part B.2 Application of measures on access and benefit-sharing for traditional knowledge associated with genetic resources (TK) that is held by IPLC	
10	**Groups I – III: Does your country have measures in place requiring that TK that is held by IPLC is accessed with prior informed consent (PIC) or approval and involvement of these IPLC and that mutually agreed terms (MAT) have been established?** Yes, no, I don't know
11	**Groups I–III: Have measures been taken to inform stakeholders on ABS measures, as they apply to TK?** Yes, no, I don't know
	If yes, how have stakeholders been informed? • ABS Clearinghouse (https://absch.cbd.int/en/) • National Clearinghouse • Information seminars • Guidance documentation
	• Other (if other, please provide details)
12	**Group III: Have you or your IPLC granted PIC or approved access to TK associated with genetic resources that is held by your IPLC?** Yes, no, I don't know
	(a) If yes, in how many cases have your or your IPLC approved access to TK associated with genetic resources that is held by your IPLC? • Less than 10 • Less than 50 • More than 50
	(b) Have you or your IPLC granted prior and informed consent or approved access to TK associated with any of the following genetic resources? (*Please specify all that apply*) • Animal genetic resources for food and agriculture

	• Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture

Part B.3 Application of measures for access to genetic resources where IPLC have the established right to grant access to such resources	
13	**Groups I – III: Does your country have measures in place which provide IPLCs with the right to determine access to its genetic resources?** Yes, no, I don't know
	If yes, are there measures in place in your country which aim at ensuring that the PIC or approval and involvement of IPLC is obtained for access to their genetic resources? Yes, no, I don't know
14	**Groups I – III: Are stakeholders informed of the need for PIC or approval and involvement of IPLC for access to their genetic resources?** Yes, no, I don't know
	If yes, how are stakeholders informed? • ABS Clearinghouse (https://absch.cbd.int/en/) • National Clearinghouse • Information seminars • Guidance documentation
	• Other (if other, please provide details)
15	**Group III: Have you or your IPLC granted PIC or approved access to the genetic resources of your IPLC** Yes, no, I don't know
	(a) If yes, in how many cases has your IPLC approved access to its genetic resources? • Less than 10 • Less than 50 • More than 50
	(b) Has your IPLC granted PIC or approved access for any of the following genetic resources? (*Please specify all that apply*) • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture

Part C.1: Exchange experience – GRFA	
16	**Groups I – III: Are you using or exchanging GRFA?** Yes, no, I don't know
	(a) If yes, please specify which (*Please specify all that apply*): • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
	(b) Please identify the GRFA you are most knowledgeable about or familiar with (*Please*

	select only one): • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
For the remainder of this part, please limit your answers to the GRFA you have identified as the one you are most knowledgeable about or familiar with.	
17	**Groups I – III: During the last two years, have you exchanged (provided or received) GRFA?** Yes, no, I don't know
	(a) If yes, how often? • Once or twice a year • Three to four times a year • More than once a month
	(b) With which of the following have you exchanged (provided or received) GRFA during the last two years? (*Please specify all that apply*) • Intergovernmental organization • Domestic public research organization/academia/university • Foreign public research organization/academia/university • Domestic indigenous people/local community • Foreign indigenous people/local community • Domestic *ex situ* (genebank) collection • Foreign *ex situ* (genebank) collection • Domestic genome database • Foreign genome database • Domestic private sector • Foreign private sector • Domestic individual, e.g. researcher • Foreign individual, e.g. researcher
	• Other (please specify)
	(c) Have the exchanges been based on ABS measures (i.e. PIC and MAT or, in the case of plant genetic resources for food and agriculture, the International Treaty's Standard Material Transfer Agreement (SMTA)? • Yes, in most cases • Sometimes • Rarely • Never • Don't know
	(d) How many days, at average, did it take before GRFA could be accessed? • No waiting time • Less than 30 days • Less than 90 days • Less than 6 months • More than 6 months
18	**Groups I – III: Have you received one or more of the following in return for providing access to GRFA?**
	• Capacity development/training • Results of research/development on the GRFA provided • Transfer of or access to technology • Monetary benefits
	• Other benefits (*please specify*)

19	**Groups I – III: Have you provided one or more of the following in return for receiving GRFA?**
	• Capacity development/training • Results of research/development on the GRFA provided • Transfer of or access to technology • Monetary benefits • Other benefits (*please specify*)
20	**Groups I & II: During the last two years, have you ever been denied access to GRFA for using them for research or development on their genetic and/or biochemical composition?**
	(a) If yes, what have been the reasons for the denial? • I did not receive a reply • I received a reply, but no reasons were given • Absence of ABS measures or implementing regulations • No agreement was reached on access modalities and/or benefit-sharing
	• Other reasons (*please specify*)
	(b) During the last two years, how many of your access requests have been denied? • Less than 10% of my requests • Less than 25% of my requests • Between 25 and 50% / About 50% of my requests • More than 50% of my requests
	(c) Countries denying you access to GRFA are located in the following region(s) (*Please specify all that apply*)[1]: • Africa • Asia • Europe • Latin America and the Caribbean • Near East • North America • Southwest Pacific
21	**Group III: During the last two years, have you ever denied access to your GRFA?**
	(a) If yes, for which reasons? • Absence of ABS measures or implementing regulations • No agreement was reached on access modalities and/or benefit-sharing
	• Other reasons (*please specify*)
	(b) During the last two years, how many requests for access to your GRFA have you rejected? • Less than 10% • Less than 25% • Between 25 and 50% /About 50% • More than 50% • All

Part C.2: Exchange experience – TK	
22	**Groups I – III: Are you using or exchanging TK associated with GRFA?** Yes, no, I don't know
	(a) If yes, please specify to which GRFA the TK applies (*Please specify all that apply*): • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources

[1] Please follow the regions, as applicable to FAO Council elections: https://www.fao.org/unfao/govbodies/gsbhome/council/council-election/en/

	• Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
	(b) Please identify the GRFA you are most knowledgeable about or familiar with (*Please select only one*): • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
For the remainder of this part, please limit your answers to the GRFA you have identified as the one you are most knowledgeable about or familiar with.	
23	**Groups I–III: During the last two years, have you exchanged (provided or received) TK associated with GRFA?** Yes, no, I don't know
	(a) If yes, how often? • Once or twice a year • Three to four times a year • More than once a month
	(b) With which of the following have you exchanged (provided or received) TK associated with GRFA during the last two years? (*Please specify all that apply*) • Intergovernmental organization • Domestic public research organization/academia/university • Foreign public research organization/academia/university • Domestic indigenous people/local community • Foreign indigenous people/local community • Domestic *ex situ* (genebank) collection • Foreign *ex situ* (genebank) collection • Domestic genome database • Foreign genome database • Domestic private sector • Foreign private sector • Domestic individual, e.g. researcher • Foreign individual, e.g. researcher
	• Other (please specify)
	(c) Have the exchanges been based on ABS measures (i.e. PIC/ MAT? • Yes, in most cases • Sometimes • Rarely • Never • Don't know
	(d) How many days, at average, did it take before TK could be accessed? • No waiting time • Less than 30 days • Less than 90 days • Less than 6 months • More than 6 months
24	**Groups I & II: Have you provided one or more of the following in return for receiving TK associated with GRFA that was held by IPLC?**
	• Capacity development/training • Results of related research/development • Transfer of or access to technology • Monetary benefits

	• Other benefits (*please specify*)
25	**Group III: Have you received one or more of the following in return for providing TK associated with GRFA that was held by your IPLC?**
	• Capacity development/training • Results of related research/development • Transfer of or access to technology • Monetary benefits
	• Other benefits (*please specify*)
26	**Groups I & II: During the last two years, have you been denied access to TK associated with GRFA that was held by IPLC?**
	(a) If yes, what have been the reasons for the denial? (*Please specify all that apply*) • I did not receive a reply • I received a reply, but no reasons were given • Absence of ABS measures or implementing regulations • No agreement was reached on access modalities and/or benefit-sharing
	• Other reasons (*please specify*)
	(b) During the last two years, how many of your requests to access TK associated with GRFA have been denied? • Less than 10% of my requests • Less than 25% of my requests • Between 25 and 50% of my requests • More than 50% of my requests
	(c) Countries/IPLC denying access to TK are located in the following region(s) (*Please specify all that apply*): [2] • Africa • Asia • Europe • Latin America and the Caribbean • Near East • North America • Southwest Pacific
27	**Group III: During the last two years, have you denied access to your TK associated with GRFA that was held by you/your IPLC?**
	(a) If yes, what have been the reasons for the denial? (*Please specify all that apply*) • Absence of ABS measures or implementing regulations • No agreement was reached on access modalities and/or benefit-sharing
	• Other reasons (*please specify*)
	(b) During the last two years, how many requests for access to your TK associated with GRFA have you rejected? • Less than 10% • Less than 25% • Between 25 and 50% • More than 50% • All

Part D: ABS Elements	
28	**Are you familiar with the publication *Elements to facilitate domestic implementation of access and benefit-sharing for different subsectors of genetic resources for food and agriculture with explanatory notes* (ABS Elements) by FAO in 2019** Yes, no, I don't know

[2] Please follow the regions, as applicable to FAO Council elections: https://www.fao.org/unfao/govbodies/gsbhome/council/council-election/en/

	(a) If yes, how important have the ABS Elements been in guiding interactions on ABS policy development and implementation in your opinion? • Very important • Important • Somewhat important • Not important • I don't know
	(b) If yes, please specify the genetic resources for which the ABS Elements have been guiding interactions on ABS policy development and implementation? • All genetic resources for food and agriculture • Animal genetic resources for food and agriculture • Plant genetic resources for food and agriculture • Aquatic genetic resources for food and agriculture • Forest genetic resources • Microorganism genetic resources for food and agriculture • Invertebrate genetic resources for food and agriculture
	(c) Should the ABS Elements be regularly updated in your opinion? Yes, no, I don't know