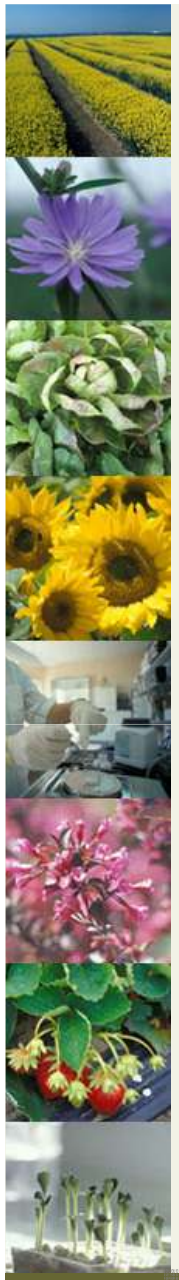


CBD and FAO : ABS rules for AnGR sector, return of experiences from the PGR sector

Isabelle Clément-Nissou

1) Convention on Biological Diversity / ABS

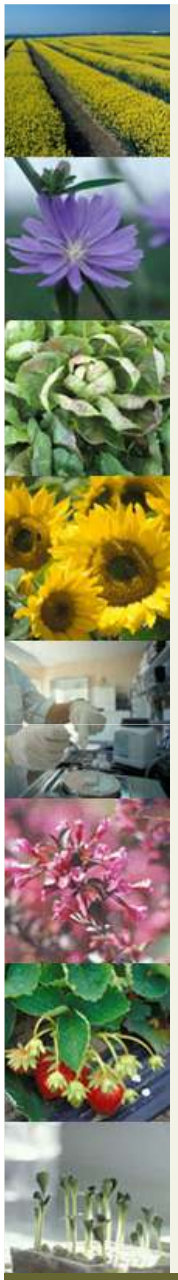
- **Adopted in 1992 and entered into force in 1993**
  Almost universal: more than 195 Parties

- **conservation, sustainable use, fair & equitable benefit sharing biodiversity : ecosystem, species and gene levels**

- These resources can be taken from
  - **the wild, domesticated or cultivated species**
  - **Natural environment (in situ) or Human-made collection (ex situ)**

  GR are genes and other genetic material (functional unit of heredity) **of actual or potential value contained in biological resources**

→ **Problems for PGRFA (Nairobi resolution)**
+ recognises the special nature of GRFA (decision II/15 et V/5)

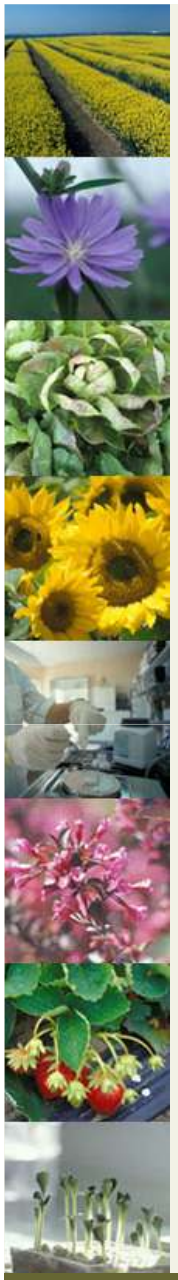


1) CBD - ABS = access and benefit sharing ?

- **"ABS":** rules governing the access and use of GR and associated traditional knowledge (TK), established by the CBD

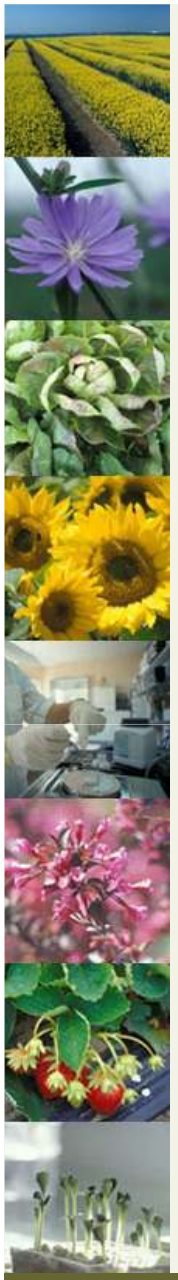
- **For some national laws and experts**
  - not only GR and related information
  - but also biological material/biochemical makeup in organism

- **Basic principles of ABS**
  - CBD recognizes rights of countries to regulate access to GR
  - Any access/use of GR must take place with the approval of the provider country ="prior informed consent" (PIC)
  - conditions for access/use of GR, including the sharing of resulting benefits, must be agreed upon "mutually agreed terms (MAT)."
  - through **Bilateral agreements**



1) CBD – ABS / Benefits sharing ?

- Monetary (royalties, upfront/milestone payments, licensing fees, joint ventures, benefits in kind …)
- Non-monetary (information, tech.transfer, research, training, institutional capacity building, joint ownership of IPRs)
- Technology transfer
  - **"Omic" sciences, Bioinformatics**
  - **Synthetic biology and Genetic make-up**
- Traditional knowledge = integral part of ABS
  - **Access to TK of ILCs** (ex: livestock keepers including pastoralists) with **their approval and involvement,** as well as with **BS**
  - **Specific approach and arrangements may vary depending**
    - knowledge : held by a limited number of ILCs /widely disseminated
    - use of TK that is known to the public (publicly available)
  - **TK = management of AnGR/PGR and their interactaction in production systems** (ethno veterinary/extensive knowledge)



1) CBD - ABS International Regime: Nagoya 2010 ?

2006/COP-8 decision : to elaborate and negotiate an Intern. Regime, no later than 2010

Important to have an International Regime = Protocol to CBD ?

- **for biodiversity-rich countries**
  - to obtain fair sharing of benefits arising out of the use of their GR
  - **to have development of compliance tools in user countries (checkpoints, disclosure, certificate of origin/compliance, remedies and sanctions)**

- **for all countries**
  - by setting clear and transparent ABS framework,
  - **to have ''facilitated'' access for further research and development**

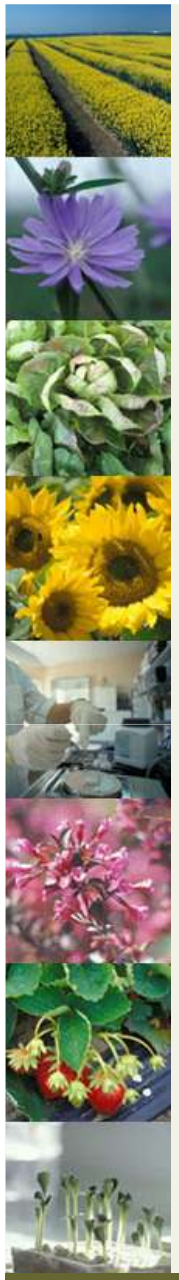
2) FAO / CGRFA - ABS

1983: FAO established in 1983 the Global System for the Conservation and Utilization of PGR.

- **Commission on Plant Genetic Resources**
- **International Undertaking on PGRFA** (Originally based on common heritage of humankind and free availability)
- **Codes of Conduct and Guidelines**
- **First Report on the State of the World's PGRFA**
- **Global Plan of Action (1996) + Leipzig declaration**
- **Network of *Ex Situ* Collections**
- **World Information and Early Warning System**

1995 : mandate extended to cover all components of biodiversity of relevance to food and agriculture, including AnGR.

2007 : adoption of the MyPOW including ABS for all GRFA



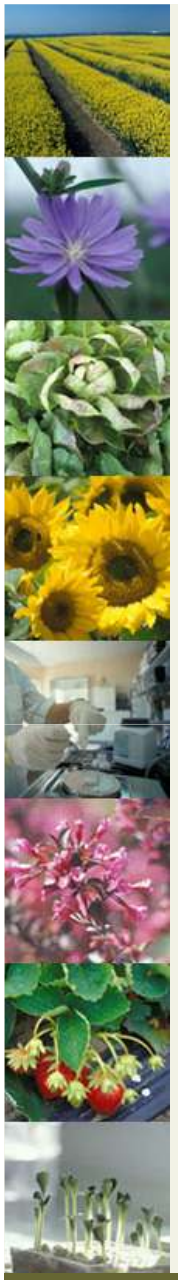
2) FAO - ITPGRFA = importance for agriculture

- **Special needs for access to PGRFA**
  - Difficulties to determine country of origin for PGRFA
  - Need to allow for continued exchange of PGRFA
  - Need to allow access as easily as possible and to reduce transaction costs
  - Need for easy, efficient and equitable system of benefit sharing

→ **Treaty was Adopted by**

FAO Conference, 3/11/2001

+ Agreements with International Agricultural Research Centres' ex situ collections (about 600,000 accessions)



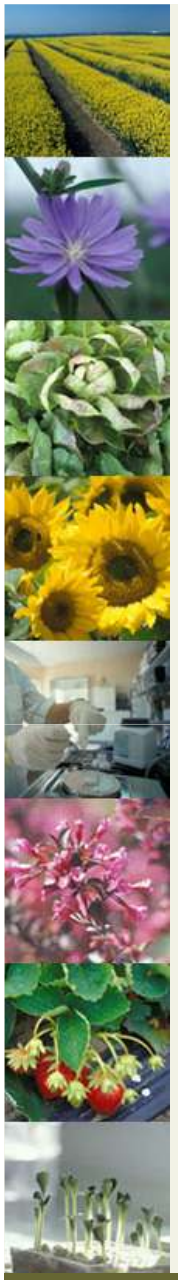
2) FAO – ITPGRFA : Main Achievements of the Treaty => MLS

- List of crops chosen on basis of importance for food security and interdependence

  35 genera of food crops and 29 forage species, (major CGIAR crops)

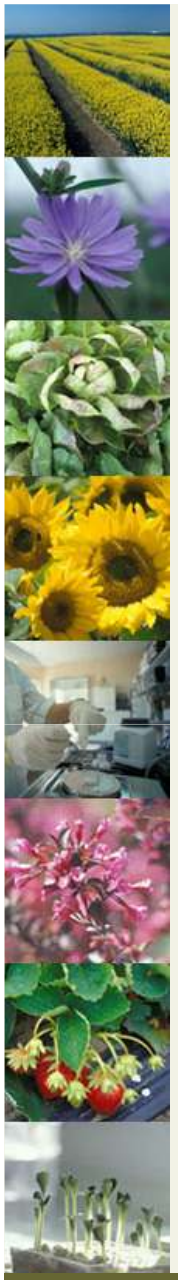
  except: groundnut, soybean, tropical forages
  Major 'industrial' and 'non-food' crops: Sugarcane, rubber, oil palm, tea, coffee, cacao, tobacco

- GR will be available under a standard Material Transfer Agreement (Multilateral agreement on rules regarding facilitated access, and benefit sharing)



2) FAO - ITPGRFA = Benefit Sharing

- SMTA = low transaction cost, to the benefit of farmers, breeders and researchers and, ultimately, consumers
- Benefits :
  - must be shared in a multilateral way
  - Facilitated access is itself a major benefit
  - Exchange of information, Access to and transfer of technology, Capacity building
  - The sharing of monetary and other benefits of commercialization
    - If a product that incorporates material from the MLS is commercialized in such a way that it is not 'available without restriction to others for further research and breeding', a mandatory payment will be made (patent for ex)
    - If it is available without restriction to others, payment is voluntary
    - will be used in the context of the Treaty's Funding Strategy



3) Intellectual property rights ? Market approval ?

IPRs = private and exclusive rights to protect creativity/innovation

Patents = useful tools to protect a <u>new</u> <u>invention</u> with <u>industrial application</u> in natural products

In EU, <u>plant varieties and animal races</u> cannot be patented as such but invention concerning <u>genetic manipulation of plant/animal tissue</u> may be patentable and extended to the products of this genetic manipulation

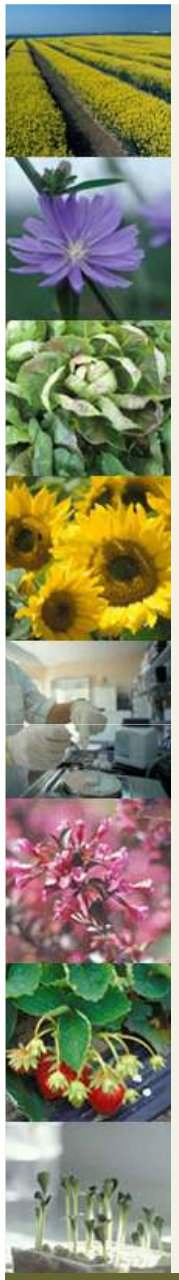
NB : publicly known GR (≠ new) cannot be protected

Patents = criticized as 'biopiracy'

- to use or claim rights over biodiversity and related TK without recognition of PIC or equitable benefit sharing
- **request for disclosure requirements by developing countries.**

WTO TRIPS (Art 27.3b) / WIPO IGC GRTKF=> Generalisation of the debate

license agreement, geographical indication, trade secret, trademark, plant variety protection (≠ patent)
and market approval procedure.



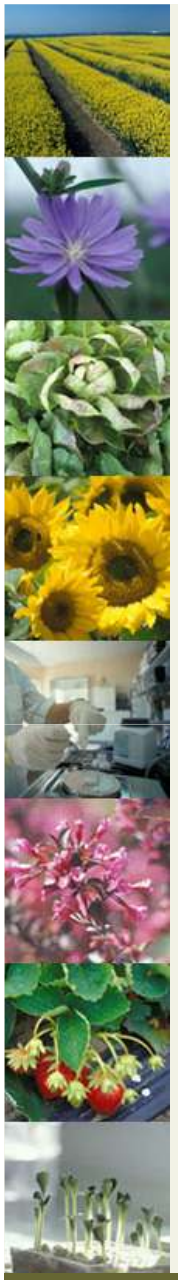
4) ABS - Diversity of sectors and actors

Size of extracting sectors(ICC 2009):

- Pharmaceuticals (global market 2008 US$773bn)
- Biotech (global market 2006 US$153.7 bn)
- Pet industry (EU+US retail markets incl cats and dogs 2007 US$85bn)
- Traditional medicines (global market US$ 60 bn)
- Plant breeding and seed industry (world seed market 2008 US$36,5bn)
- Biotech crop (global market 2008 US$7.5 bn
- Animal breeding : cattle, pig, poultry and fish (global turnover €2.5 bn)
- Bio-control (turnover €200m) …

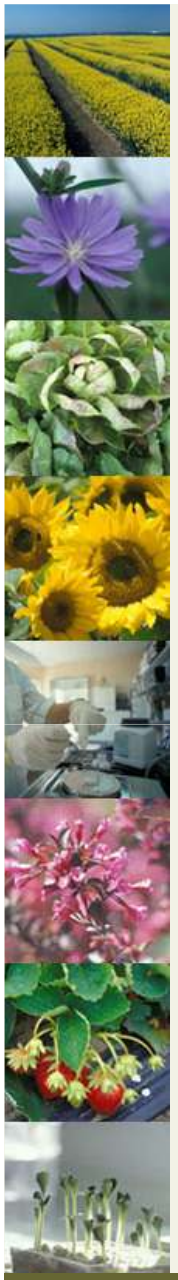
Many sectors using GRs/BRs consist of SMEs

- Research, R&D, Commercialization
- Size, turnover, markets (local/regional/global)
- access to genetic diversity (GR, BR or derivatives) and Use of GRs/TK associated with GR, derivatives
- Existing ABS arrangements: voluntary/binding,bilateral/multilateral



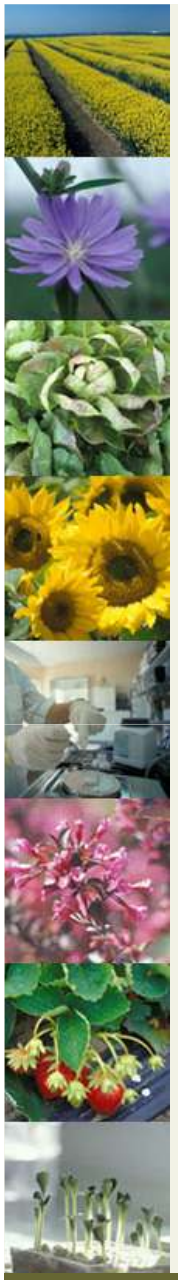
5) ABS = Communalities between PGRFA and AnGRFA

- **Flow of GR**: very important in the past and today and Actual Races/varieties are the result of world wide gene flow
  - **2 types of GR: (i) local/traditional varieties/races, (ii) modern/commercial varieties/races**
- **Interdependency** in the utilization of GR (Crops: on average 70%, and in some places up to 100%)
- **Impact of** animal/plant **disease protocols**/international exchange (IPPC, OIE)
  - **Sanitary regulations (WTO/SPS)**
  - **Need to have** access to ''pathogens'' **for further animal/plant** breeding
- **Marginalization of traditional production systems** link to intensification, uniformization and industrialization



5) ABS = Communalities between PGRFA and AnGRFA

- **Importance of GR for food security and sustainable agriculture and climate change adaptation** (disease resistance, tolerance to climatic extremes, supply of specialized products …)
  - **Agricultural biodiversity** created largely by **human intervention** and requiring continuous **human management**
  - GRFA research involves mainly non-monetary benefit sharing
  - value is added in the research breeding process
  - **wide access to GR** is essential to sustainable use and development
  - Benefits can be captured even if the GR is not sold: countries, farmers, consumers benefit by having better and more productive varieties/races
  - Importance of **GR characterization and evaluation**

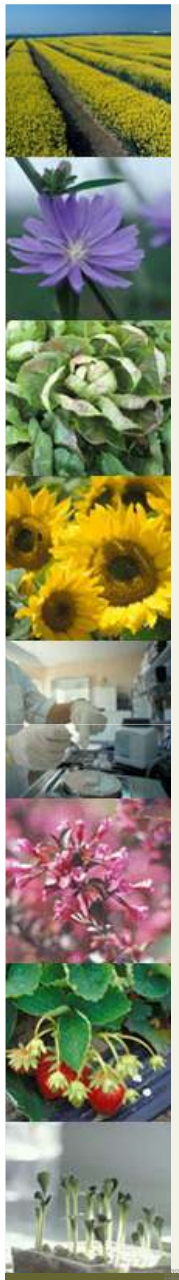


5) ABS - Differences between PGRFA and AnGRFA

- AnGR
  - Fecundity is lower, level of variation, animal value
  - More time for the creation of new breeds/races
  - Comparatively higher cost (conserv. and evaluation per unit/GR
  - Animal ‘’seeds (semen, ova, embryos)’’ need specific conservation conditions (be deep frozen to survive)
- Direction of GR flow (N->N, N->S, S->S)
- No specific IP system for races worldwide
  but patent for biotech invention, geographical indication common
- Frameworks for breeds and populations GRs differ accordingly to species:
  - for farmfish, poultry / often privately owned
  - for bovines, sheeps / often collectively managed

Communalities and differences

	PGR	AnGR
Breeding	Inbreeding: Used Value/individual: Low to Medium Testing cost: low to medium *Moderate use of wild species* *GM*: Possible/efficient	Inbreeding: Not desirable Value of individual: Medium to high Testing cost: medium to high *Negligible use of wild species* *GM*: Possible (fish, pig) to difficult
Exchange GR	Worldwide Multilateral (ITPGRFA) + Bilateral agreements	Worldwide (less S->N) Bilateral agreement between seller and purchaser and/or communal rules (customary rules + market value)
GR ownership	Breeders, genebanks, farmers, individuals, bot. gardens, private	Breeders, farmers, private, semen genebanks
Protection	TRIPS: (i) Possible exclusion from patentability/varieties, (ii) *Sui generis* system for plant variety Private property of breeding material	TRIPS: (i) Possible exclusion from patentability/races ? (*sui generis* system existing in some countries) Private property of Animals
Center of origin	Possible to determine Major rules of ‘’Vavilov centers’’ Transboundary GR	Possible to determined Multiple breeding centers Transboundary GR



Issues for AnGR

Definition and status AnGR / biological resources

- *AnGR = all animal species, breeds and strains that are of economic, scientific and cultural interest, today or in the future, in terms of food and agricultural production*
- *+ 35 species of birds and mammals have been domesticated for agriculture and food/fiber production, + 7.600 recognized breeds*

- **Tangible property, intangible property, intellectual property**
- **Local, national, regional, global levels**

Access and benefit sharing (ABS, country of origin)

- **PIC + MAT + compliance** (checkpoints, disclosure, certificate)
- New and continuous uses (Africa)/ question of retroactivity
- **ABS protocol / CBD or special treaty / FAO CGRFA**
  - **Preambular part (on going work of CGRFA)**
  - **Scope – Art 3 (possible exclusion for commodities) or Cooperation with other international agreement – Art 3 bis**
  - **Research and emergency situation – Art 6c)**
  - **Transboundary cooperation – Art. 8**
  - **Code of best practices and model contractual clauses – Art. 16 & 15**

TRIPS Agreement + WTO Committee on Trade and the Environment
WIPO Intergovernmental Committee, UNESCO (TK), DECRIPS (TK)

Preambular

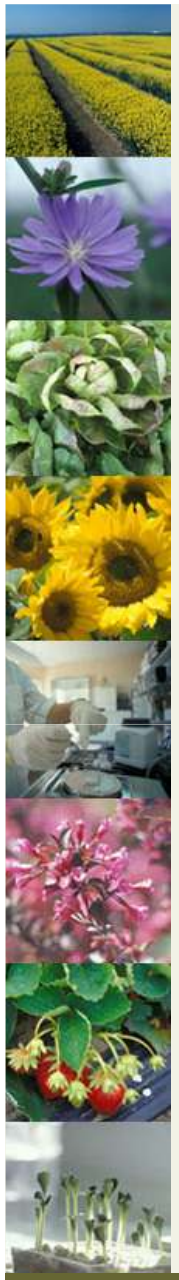
[Recognizing the **interdependence of all countries with regard to genetic resources for food and agriculture as well as their special nature and importance for achieving food security worldwide and for sustainable development of agriculture in the context of poverty alleviation and climate change** and acknowledging the **fundamental role of the International Treaty on Plant Genetic Resources for Food and Agriculture** and **the FAO Commission on Genetic Resources for Food and Agriculture in this regard**,]

Recognizing the **importance of genetic resources to food security, public health, biodiversity conservation, and the mitigation and adaptation to climate change,**

[Recognizing the **special nature of agricultural biodiversity, its distinctive features and problems needing distinctive solutions**,]

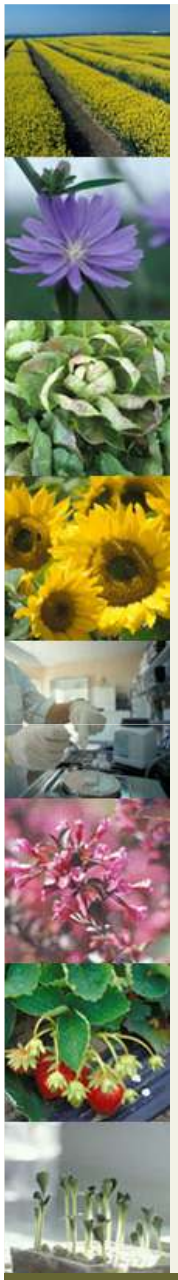
[Recognizing that **no special characteristics of genetic resources should detract from the obligation of the users of these resources to provide for the fair and equitable sharing of benefits** whenever these resources are utilized,]

[Acknowledging **ongoing work relating to access and benefit-sharing in various forums**, including, inter alia, the International Treaty on Plant Genetic Resources for Food and Agriculture, **the Commission of Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations**, the United Nations Ad Hoc Open-ended Informal Working Group on Marine Biological Diversity beyond Areas of National Jurisdiction, and the Working Group on Pandemic Influenza Preparedness of the World Health Organization,]



ARTICLE 1: OBJECTIVE

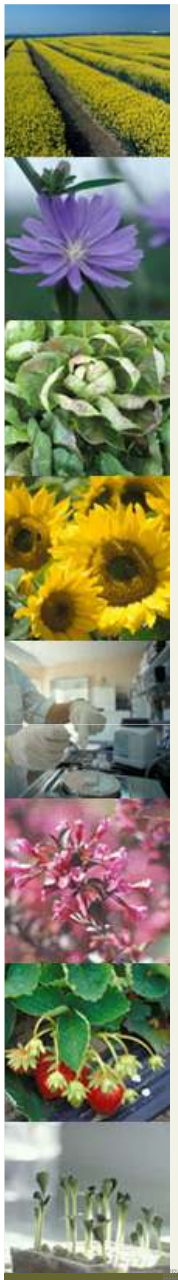
The objective of this Protocol is the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components



ARTICLE 3 *bis*

- [1. The provisions of this Protocol shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biodiversity.

  This paragraph is not intended to subordinate the Protocol to other international instruments.]
- 2. Nothing in this Protocol shall prevent the Parties from developing and implementing other relevant international agreements, including other specialised access and benefit sharing agreements, provided that they are supportive of and do not run counter to the objectives of the Convention and this Protocol.
- 3. This Protocol and other international instruments relevant to this Protocol shall be implemented in a mutually supportive manner, [[without prejudice to] [bearing in mind] ongoing work or practices under relevant international organizations and conventions.]
- 4. This protocol is the instrument for the implementation of the access and benefit sharing provisions of the convention. Where a specialised international access and benefit sharing applies that is consistent with, and does not run counter to, the objectives of the convention and of this protocol, this protocol does not apply for the contracting party or parties to the specialised instrument in respect of the specific GR covered by and for the purpose of the specialised instrument.



ARTICLE 6
[CONSIDERATIONS RELEVANT TO [NON-COMMERCIAL] RESEARCH AND EMERGENCY SITUATIONS

In the development and implementation of their national legislation on access and benefit-sharing, Parties shall:

(a) Create conditions[, including simplified measures on access for non-commercial research purpose,] to [facilitate,] promote and encourage [non-commercial] **biodiversity-related research, considering its importance for the conservation of biological diversity and the sustainable use of its components,** taking into account Article 12(b) of the Convention on Biological Diversity; and

(b) (b) [Pay due regard to **emergency situations including serious threats to public health, food security or biological diversity**, according to national legislation.] [**Provide immediate access to [pathogens] [genetic resources**] falling also under the scope of relevant international organizations and conventions, such as the **World Health Organization, the International Plant Protection Convention, or the World Animal Health Organization**, and which are of particular public concern for the health of humans, animals or plants, in ways and for uses provided for in existing and future rules, procedures or practices on the sharing of pathogens and related benefits established under those international organizations and conventions[, taking into consideration [the legal, structural and/or administrative obstacles to the optimal implementation of] the World Trade Organization paragraph 6 system]];

(c) Consider the importance of genetic resources for food and agriculture and their special role for food security and climate change adaptation and mitigation;

(d) Consider sectoral approaches in the implementation and further development of this Protocol.]]

[This Protocol shall provide no special consideration for any sector or any use of genetic resources or associated traditional knowledge without adequate provisions for fair and equitable benefit-sharing and compliance;]

[Pay due regard that the domestic access and benefit-sharing laws, policies or measures will not affect biological resources that are traded and used as commodities.]