

# The bio-diversity, food security, IP interface in international law

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# Outline

- 1) Private (IP) rights over biological materials vs common heritage and state sovereignty over genetic resources
- 2) Food security, the right to food, and IP

# Patents on Bio-tech: Expanding the IP Regime

The Starting Point: **Extending Patents over Natural Commons**

*“A live, human-made micro-organism is patentable subject matter under 35 U.S.C. § 101”* which extends to *“anything under the sun that is made by man”*

*Diamond v. Chakrabarty*, 447 U.S. 303 (1980)

IPRs grant exclusive control over the protected subject matter

→ Using **GRs and TK as inputs** for inventions might lead to their **appropriation via patents** over modified outputs...

# PGRs (incl. PVRs) as Common Heritage?

(Adopted 23 November 1983)

Annex to Resolution 8/83

## INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES

### I. GENERAL

#### Article 1 - Objective

1. The objective of this Undertaking is to ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes. This Undertaking is based on the universally accepted principle that plant genetic resources are a heritage of mankind and consequently should be available without restriction.

#### Article 2 - Definitions and Scope

##### 2.1 In this Undertaking:

(a) "plant genetic resources" means the reproductive or vegetative propagating material of the following categories of plants:

- (i) cultivated varieties (cultivars) in current use and newly developed varieties;
- (ii) obsolete cultivars;
- (iii) primitive cultivars (land races);
- (iv) wild and weed species, near relatives of cultivated varieties;
- (v) special genetic stocks (including elite and current breeders' lines and mutants);

# The Response: Expanding Sovereignty

## The Movement for a “New International Economic Order”

Developing countries claim *“full permanent sovereignty of every State over its natural resources and all economic activities”* (UN General Assembly, 1974)

## 1972 Stockholm Declaration on the Human Environment

Acknowledging the *“sovereign right”* of states *“to exploit their own resources pursuant to their own environmental policies”*

→ **State Sovereignty** as tool to claim ownership

# The **CBD**: State Sovereignty over GRs

## The Bargain in the CBD

*“In the 1970s, developing countries complained bitterly that genetic resources taken from them on the basis that these were the ‘common heritage of mankind’ were returned to them as a commodity with a price. (...) **Through the Convention** the South finally succeeded in rectifying the unequal and unfair exchange. **The sovereign right of countries over their resources was recognized.** This included the right to regulate access.”*  
(Nijar, 2010)

→ **Quid-pro-Quo**: Sovereign rights over natural resources extend **access control over GRs** (Art.3, 15:1), commitments on **benefit sharing** relating to GRs (Art.15:7) & to **transfer resulting technologies** (Art.16) – in exchange for obligations for the **conservation** of biological diversity (Art.8 CBD), its **sustainable use** (Art.10 CBD) and allowing some **access to GRs** (Art.15:2 CBD).

# Scope of state sovereignty over GRs?

- The specific FAO treaty framework on ‘**Plant Genetic Resources for Food and Agriculture**’ ([FAO Treaty](#)) again recognizes states’ ‘*sovereign rights over their plant genetic resources*’, and establishes a ‘**multilateral system** for facilitated access to a negotiated selection of these resources and for the fair and equitable sharing of the benefits arising from their use’
- The WHO **Pandemic Influenza Preparedness Framework** ([PIP](#)) ‘*for the sharing of influenza viruses and access to vaccines and other benefits*’ also recognizes ‘*the sovereign right of States over their biological resources*’, but asks all countries to **rapidly share virus samples and their genetic sequence data** – in exchange for rather **vague expectations of vaccine sharing**...

# The TRIPS – CBD/NP relationship

GRs and associated TK: common heritage of all (and hence basis for inventions), or subject to state sovereignty?

## The CBD/NP regime:

Sovereign rights of States over GRs;  
duty to protect TK:  
→ Access on PIC, MAT should lead to fair sharing of benefits of GR utilisation

**Disclosure of origin requirements?**

## The TRIPS regime:

Patents for any invention, in all fields of technology, including plants and animals (at least micro-organisms, non-biological biotech processes)

→ What about digital sequence information (DSI) representing the genome of a GR?



# The TRIPS – CBD Relationship

WTO Mandate under para.19 Doha Decl

Mandate to (...) “*examine, inter alia, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore*”

→ Current focus of the ‘Art. 27.3 b) Issues’ on **patent disclosure requirements**

- within TRIPS,
- via WIPO (PCT, PLT, IGC drafts),
- outside patent law or
- instead using national laws and contracts to ensure benefit sharing...

# Food Security, the Right to Food and IP

# Food Security and IP rights

## The Link between the **Food Security** and **IP protection**

*“The professionalization of breeding and its separation from farming leads to the emergence of a commercial seed system, alongside the farmers’ seed systems through which farmers traditionally save, exchange and sell seeds, often informally. This shift has led to grant temporary monopoly privileges to plant breeders and patent-holders through the tools of intellectual property, as a means to encourage research and innovation in plant breeding.*

*In this process, however, the poorest farmers may become increasingly dependent on expensive inputs, creating the risk of indebtedness in the face of unstable incomes.*

*Private-led research may seek to satisfy the needs of farmers in industrialized countries, while neglecting those of poor farmers in developing countries.*

*The farmers’ seed systems may be put in jeopardy, although most farmers in developing countries still rely on such systems, which, for them, are a source of economic independence and resilience in the face of threats such as pests, diseases or climate change.” (O. De Schutter, UN Special Rapporteur on the Right to Food, 2009)*

# WTO/TRIPS Agreement

## IP Protection for Plants under TRIPS

*Members may also exclude from patentability: (...)*

*(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement. (Art.27:3 TRIPS)*

→ **Patents** can apply to **seeds, plant cells or DNA sequences** where the farmer licensee has often no right to save, re-sow or exchange the patented material...

→ In addition, many countries protect plant varieties under **UPOV**

# Int. Treaty on Plant Genetic Resources for Food and Agriculture

## Importance of **Plant Genetic Resources**

- "*Plant genetic resources for food and agriculture*" (PGRs) means **any genetic material of plant origin** of actual or potential value for food and agriculture (Art.2 FAO Treaty)
- **Countries depend** largely on PGRs that originated elsewhere
- PGRs "*are the **raw material indispensable for crop genetic improvement**, whether by means of farmers' selection, classical plant breeding or modern biotechnologies, and are essential in adapting to unpredictable environmental changes and future human needs*" (Preamble FAO Treaty)
- "*In the exercise of their **sovereign rights over their plant genetic resources** for food and agriculture, States may mutually benefit from the creation of an effective multilateral system for facilitated access to a negotiated selection of these resources and for the fair and equitable sharing of the benefits arising from their use*" (Preamble FAO Treaty)

# The Scope of Farmer's Rights under the FAO Treaty

## Article 9 - Farmers' rights

- 9.1. The Contracting Parties recognise the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.
- 9.2 The Contracting Parties agree that the responsibility for realising farmers' rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote farmers' rights, including:
- (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
  - (b) the right to equitably participate in sharing benefits arising from the utilisation of plant genetic resources for food and agriculture; and
  - (c) the right to participate in making decisions, at national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
- 9.3. Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

# The Right to Food under the ICESCR

## Article 11 ICESCR

2. *The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures, including specific programmes, which are needed:*
- (a) *To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources;*
- (b) *Taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.*
- Formulating goals/results: **IP as (incentive) tool to achieve these goals or as a barrier to access?**

# The Scope of Farmer's Rights under the Right to Food

Farmer's rights mandated by [Art.11 ICESCR](#)?

- **Duty to respect** “*existing access to adequate food*” – as prohibition to introduce laws which “*create obstacles to the reliance of farmers on informal seed systems*”...
  - **Duty to protect** the right to food: Potentially violated “*if a State failed to regulate the activities of patent-holders or of plant breeders, so as to prevent them from violating the right to food of the farmers depending on those inputs in order to be able to continue to farm*”...
- Can Artt.15, 17 UPOV be **implemented in light of Art.11 ICESCR** – allowing extended farmer's rights?
- In case harmonious interpretation is not possible: **Does HR to food prevail over UPOV?** (Argument of **primacy of HR**, based on Art.103 [UN Charter](#))



# Concluding question

- The existing international legal system offers various regimes that address food security from their specific perspectives
- Int IP protection (and other elements of international economic law) tend to ‘prevail’ over environmental treaties and human rights instruments
- Can considering food security as a ‘*common concern of humankind*’ offer new impetus?