

Biprospecting and Biopiracy

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EC-ASEAN Intellectual Property Rights Co-operation Programme (ECAP II)

Biodiversity Conservation

- *In situ* conservation - role of traditional farmers in conserving genetic biodiversity
- Ex situ conservation - role of CGIAR centres (eg IRRI, CIMMYT, CIP, IRISAT, ICARDA), role of NARS.



CGIAR Biological Assets

- Parent germplasm (individual plant varieties)
- biological tools (eg selectable markers to determine transformation of plant cells)
- advanced mapping populations, near isogenic lines, introgression lines, mutants, advanced lines from conventional breeding, Inbred lines for hybrids, Transgenic lines
- enabling technologies
- promoters that are used to control expression of the gene in plants
- gene silencing or regulating technologies that can be used to suppress or modify gene expression in plants.



Biopiracy Episodes

- 1995 Neem
- 1998 ICRISAT (legumes), ICARDA (chickpeas)
- 1999 IRRI (Blight resistant rice)
- 1999 Enola beans (CIAT)
- 2000 Nuna beans (CIAT)
- 2002 Maca (CIP)



1998 Australian 'Biopiracy' Episode

PBR Applications by AgWA and GRDC for
germplasm obtained from ICRISAT and
ICARDA

New Scientist "it was hard to imagine what
two Australian government agricultural
agencies thought that they were up to when
they applied for property rights on
chickpeas grown by subsistence farmers in
India and Iran"



UC Davis Blight Resistant Rice

Blight resistant rice from Mali crossed by IRRI with high-yielding varieties

“Nucleic acids, from *Oryza sativa*, which encode leucine-rich repeat polypeptides and enhance *Xanthomonas* resistance in plants. (U.S. patent 5,859,339 12 Jan 1999).



Enola Bean

US patent 5,894,079 (13 April 1999) for “a new field bean variety that produces distinctly colored yellow seed which remain relatively unchanged by season.” (May 28, 1999, U.S. PVP Certificate)

CIAT patent challenge the yellow bean was 'misappropriated' from Mexico in breach of Mexico's sovereign rights over its genetic resources, as recognized by the CBD



Yacon (Nov 1999 CIP)

"Sarada-Otome" variety derived by Japanese researchers from CIP germplasm.

Concern expressed about the equity of denying to a source country, new derivatives of deposited germplasm.



CGIAR and FAO

1983 FAO International Understanding on
PGRFA

1984 FAO Commission on Plant Genetic
Resources

1992 Rio Earth Summit

1994 Agreement between CGIAR Centres and
FAO

1999 Proposed CGIAR moratorium



1994 FAO Agreement

CGIAR Centres to hold germplasm “in trust for the benefit of the international community”

MTAs to require that IP not to be sought over designated germplasm by recipients



The Convention on Biological Diversity (CBD)

access to genetic resources (Art. 15);

access to and the transfer of technology
(Art.16);

informed consent and the distribution of
benefits of biotechnological innovations
(Art.19).



CBD Access and Benefit Sharing

COP IV/8 established Panel of Experts “to draw upon all relevant sources ... in the development of a common understanding of basic concepts and to explore all options for access and benefit sharing on mutually agreed terms including guiding principles, guidelines, and codes of best practice for access and benefit-sharing arrangements.”



CBD - COP V

WG on Access and Benefit-sharing “to develop guidelines and contract terms for prior informed consent; roles, responsibilities and participation of stakeholders; conservation and sustainable use; benefit-sharing, for example through technology transfer and joint research and development; and means to ensure the respect, preservation and maintenance of knowledge, innovations and practices of indigenous and local communities.



Indigenous and Local Communities

CBD Art. 8(j) required each signatory subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities ...relevant for ...the conservation and sustainable use of biological diversity and ... encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.



Regional Agreements on Access and Benefit-sharing

- Draft ASEAN Framework Agreement on Access to Biological and Genetic Resources
- Decision 391 on a Common System on Access to Genetic Resources of the Commission of the Cartagena Agreement.



National Access Legislation

Philippines Executive Order No. 247

Kenya Industrial Property Act

OAU Model Legislation

Costa Rica Biodiversity Law

Brazil Medida Provisória nº 2.052-1

Andean Community Decision 391

Philippine Indigenous Peoples Rights Act



The Mandatory Obligation in the TRIPS Agreement to Protect Plant Varieties

Art 27.1 “patents shall be available for any inventions, ...in all fields of technology...”

Art 27.3 (b) Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof.



What is a Patentable Invention and How Does it Differ From a Plant Variety?

EC Directive on the Legal Protection of Biotechnological Inventions, Art 3.2
“Biological material which is isolated from its natural environment or produced by means of a technical process may be the subject of an invention even if it previously occurred in nature”.



Patentability of PVs

EC Biotechnology Directive Recital 31

“... a plant grouping which is characterized by a particular gene (and not its whole genome) is not covered by the protection of new varieties and is not excluded from patentability even if it comprises new varieties of plants.”



*Novartis/Transgenic Plant [2000] O.J.
EPO 511*

a plant defined by a single recombinant DNA sequence “is not an individual plant grouping to which an entire constitution can be attributed”.



Monsanto Litigation

- *Monsanto Company v. Percy Schmeiser*
Cultivation of patented Canola
- *Monsanto Company v. Homan McFarling*
Relationship between patenting and PVP
Contracts of adhesion and consumer
protection laws



Doha Declaration 2001

19. the Council for TRIPS, in its ... review of Article 27.3(b)... to examine, *inter alia*, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments raised by Members pursuant to Article 71.1. ...the TRIPS Council shall be guided by the objectives and principles set out in Articles 7 and 8... and shall take fully into account the development dimension.”



Treaty on PGRFA - Multilateral System

Art 10.2 agreement to “establish a multilateral system, which is efficient, effective and transparent, both to facilitate access to [PGFRA] and to share, in a fair and equitable way, the benefits arising from the utilisation of these resources, on a complementary and mutually reinforcing basis”.



Treaty on PGFRA - IP

Facilitated access to PGFRA is to be provided in accordance with Article 12.3. Paragraph (d) provides that the recipients “shall not claim any intellectual property or other rights that limit the facilitated access” to PGFRA, or their “genetic parts or components”, in the form received from the Multilateral System



Farmers' Rights

Art. 9.1 The Contracting Parties recognize 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.

