The Role of the Global Crop Commons in Supporting Livelihoods and Food Security in Developing Countries

Louvain-la-Neuve, 13 September 2012
Who is Bioversity International?

Bioversity is a non profit organization with offices in 20 countries and working on projects in over 100 countries with about 300 research partners.

Bioversity is the world's largest international research organization dedicated solely to the conservation and use of agricultural biodiversity.

Bioversity undertakes scientific research on the sustainable use of agricultural biodiversity - benefiting people in the developing world being at the centre of our work.
Where we work:

A staff of around 360 operating from 16 locations around the world
Our Vision:
A world in which smallholder farming communities in developing countries are thriving and sustainable

Our Purpose:
To investigate and promote the use and conservation of agricultural biodiversity in order to achieve better nutrition, improve smallholders’ livelihoods and enhance agricultural sustainability
Bioversity Strategic Priorities

Use of biodiversity by smallholder farmers

Demonstrate how smallholder farming communities can significantly improve their livelihood and nutrition, and ensure more sustainable and resilient agricultural systems through the improved use of biodiversity with the potential to benefit 320 million people.

Conservation and availability of plant diversity

Support the development of an innovative operational global programme of in situ conservation of plant diversity, tested and applied on at least 30 crops and their wild relatives, and 100 priority forest tree species on three continents.

Significantly improve the availability of plant genetic resources through conservation, information management and a supporting policy environment.
The importance of agricultural biodiversity

Three key global challenges for agriculture
• Hunger and malnutrition
• Rural poverty
• Environmental degradation

The potential of agricultural biodiversity
• Nutritional health gains
• Improving rural livelihoods
• System sustainability and resilience
• Improved ecosystem services

Access to genetic resources is key!

Exacerbating factors
• Climate change
• Population growth
• Water scarcity
• Market dynamics
International ‘slow-down’ in availability of PGRFA

• Since mid-1980s, the world has been engaged in protracted discussions on how to control, manage, use and share benefits from genetic resources.

• Period marked by high levels of political and legal uncertainty at organizational, national and international level.

• The impact on how countries, companies, universities treat GR has been profound, increasingly careful, restrictive approaches.

• Widespread phenomenon of research and conservation efforts being frustrated due to inability to get access to PGRFA.
1983: The International Undertaking on Plant Genetic Resources

- **Past:** Free exchange of material among countries

- PGRFA are the **common heritage** of humankind

- But different interpretations

Commission on Plant Genetic Resources for Food & Agric.
A paradigm shift

From **public domain/common heritage of humankind** to ‘**hyperownership**’

- Increased use of intellectual property rights
- Assertion of sovereign rights over genetic resources
1992: Convention on Biological Diversity (CBD)

1994: World Trade Organization and the TRIPS Agreement

1994-2001: Negotiation of a binding instrument to replace the International Undertaking:
- Long and difficult negotiations
- North – South divide
- Introduction of notion of ‘multilateral system’
Why are things so complicated?

From ‘common heritage of human kind’ to ‘national sovereignty’ and private forms of control: a confluence of factors:

- Rise of biotechnology creating possibilities for private sector investment in plant breeding
- Concomitant pressures to globalize IPR protection
- Relative lack of capacity of most developing countries to take advantage of these technologies and IPRs
- Dramatically increased levels of private sector investment in agriculture and drastic decreases in public investment
- Both real and alleged accounts of unfair takings, or “biopiracy”
- Counter assertions of sovereign rights of control over genetic resources
- High levels of political controversy and legal uncertainty
Key questions

1. Who is the owner of the material held in the genebanks? The country of provenance? The country where the collection is located (often developed countries)? The farmers that selected the varieties? Humanity?

2. If new varieties are the result of applying technology to some genetic material, why the rights of the material provided are not recognized in the final product?
Why do PGRFA deserve a special regime of ABS?

### Differences between PGRFA and Wild PGR

<table>
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<tr>
<th>PGRFA</th>
<th>Wild PGR</th>
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<tbody>
<tr>
<td>Valued for intra-specific diversity</td>
<td>Less knowledge on intra-specific diversity</td>
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<tr>
<td>Are essentially products of human selection and depend upon farmers for their continued survival</td>
<td>Are products of natural selection and sustain themselves</td>
</tr>
<tr>
<td>PGRFA diversity concentrated around centres of origin and diversity of cultivated plants and their wild relatives</td>
<td>Distribution of wild PGR diversity largely independent of human activities (though limited and displaced by human activities)</td>
</tr>
<tr>
<td>Extensive ‘movement’ and breeding of crop diversity due to farmers exchanging seed and cross breeding with exotic material to maintain/increase productivity</td>
<td>Evolution of wild PGR is dependent on natural forces of selection</td>
</tr>
<tr>
<td>Global access is required for the continued agricultural development</td>
<td>Global access is an issue for wild relatives of crops and species of potential economic use, including potential pharmaceutical use</td>
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Why do PGRFA deserve a special international regime on ABS?

For the most important crops, PGRFA are the result of hundred crosses between materials coming from different countries

Figure 1  A small segment of the bread wheat (cv. Sonalika) pedigree. Landraces are in a double box.
Why do PGRFA deserve a special regime?

Countries are interdependent on PGRFA

Gepts, 2004
RESULT:
2001: The International Treaty (IT)

- Adoption of a binding instrument on the basis of the International Undertaking but compatible with the Convention on Biological Diversity
The Treaty in a nutshell

- Entered into force in June 2004
- Today: Signed and ratified by 127 countries & the EU
- Scope: Plant genetic resources for food and agriculture under the control of the Contracting Party and in the Public Domain
- Objectives: 1) Conservation and sustainable use of plant genetic resources for food and agriculture  
2) Equitable sharing of benefits arising out of their use, in harmony with the CBD
- Structure
  - Introduction
  - General Provisions
  - Farmers’ rights
  - The Multilateral System of Access and Benefit-Sharing
  - Supporting Components
  - Financial Provisions
  - Institutional Provisions
The Multilateral System (MS)

Access
- Common pool of plant genetic resources for food and agriculture for the most important crops for the purpose of research, breeding and training.
- Access to all materials in the multilateral system is facilitated for all parties to the Treaty.

and Benefit Sharing
- A percentage of the benefits gained through commercialization go to a common fund managed by the Governing Body of the Treaty.
No intellectual property rights over the material in the form received

Benefit sharing: when the new product is commercialized subject to restrictions for research and breeding

- **Modality 1**: 1.1% of the sales of the product
- **Modality 2**: 0.5% of the sales of any product of the same crop

The SMTA is a template. It cannot be changed!!
But: Additional conditions for PGRFA under development
When to use the Standard Material Transfer Agreement

In the following cases:
1. When there is a real transfer
2. When the material is a PGRFA
3. When the purpose is research, breeding or training
4. When it is for food and feed purposes
# The Multilateral System

<table>
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<tr>
<th>ABS under the multilateral system of the Treaty</th>
<th>ABS in an average national regime inspired by the CBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No prior informed consent, materials are available.</td>
<td>Prior informed consent from the holder of genetic resources is required</td>
</tr>
<tr>
<td>Free, or only administrative costs</td>
<td>Costly procedures + up-front payments</td>
</tr>
<tr>
<td>A standard material transfer agreement contains all conditions for access, use and benefit-sharing</td>
<td>Bilateral agreement between provider and recipient of the resources, according to the mutually agreed terms</td>
</tr>
<tr>
<td>The material is transferred expeditiously, no need to track each transfer</td>
<td>Continuous reports about the use and movement of the resources are required</td>
</tr>
<tr>
<td>A percentage of the benefits from commercialization go to a common fund and, from that fund, mainly to farmers and conservation programmes in developing countries</td>
<td>When agreed, a percentage of the benefits flow back to the provider of the material</td>
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Focus on access and benefit sharing

The Nagoya Protocol on access and benefit sharing

- Threatened to erase gains of the Treaty
- Recognizes the ITPGRFA
- It is the framework for determining rules for all GRFA not under the Treaty
The current state of ABS

Significant *de jure* progress, but many issues still to address.

Wavering levels of commitment. Low levels of follow-through on the Treaty.

Additional work is required to get architecture of overall ABS systems finalized, working, and self-justifying.
Obstacles to success

- Lack of implementation of the International Treaty
- Lack of legal certainty with generally acceptable conditions
- Reluctance of private sector to access material

This requires action both:

- At national level
- At international level
The Joint Programme on Treaty Implementation

• In 2005, the Treaty Secretariat, Bioversity International and FAO started discussions of Joint Programme to work with countries implementing the Treaty

• Main focus is on the national implementation of the multilateral system of access and benefit sharing
  – Technical legal and administrative issues
  – Supportive documentation/information technology assistance
The Joint Programme on Treaty Implementation (cont’d)

• Support national stakeholders/experts to:
  – identify/analyse factors to be addressed for the country to participate in the multilateral system
  – draft policies, laws and or administrative decisions/procedures
  – hold workshops to consider options, develop drafts, raise awareness
Research and advocacy

- Understanding the benefits, costs and barriers to participating in internationally coordinated systems of conservation and use of GRFA

- Analyzing options for ABS policies to support optimal cooperation
Collaboration and Capacity building

Collaboration
Identifying options for CGIAR system-wide approaches to implementing international legal obligations, addressing grey areas

Capacity building
Supporting partners in national programmes and regional organizations to implement policy and address grey areas
Supporting use through information systems

- What material is available
- Passport, characterization, evaluation data
- Climate data, geographic data
- Allowing them to request materials easily
- Generating information for easy reporting to the office of the Third Party Beneficiary
- Global Information on Germplasm Accessions building on SINGER, EURISCO, GRIN
Supporting use through pre-breeding

These kinds of internationally organized projects generate information about materials in the MLS and, in some cases, lead to new value-added PGRFA to be included in the MLS.
Technology co-development and transfer platform

• Rio six-point action plan recommended building a technology transfer Platform
• For the benefit of small scale farmers in developing countries
• Platform operates within the Funding Strategy of the Treaty
• International and national institutions with skills and experience in agricultural technologies, in the public and the private sector
What is at risk?

Lack of access will prevent addressing the challenges of food and nutrition security and climate change because:

- Access to GR is essential to productivity increases and adaptation to changed conditions.
- Important diversity is still not available to breeders and needs to be accessed from *in situ* conditions or collections located in different countries from where they will be needed in the future.
Important steps have been taken
  ✓ Legal framework: The Treaty
  ✓ Global Crop Diversity Trust
  ✓ Steps towards conservation strategies
  ✓ Building a global information system
  ✓ Safety duplication…

But a lot needs to be strengthened
  ➢ Collaboration for rational conservation
  ➢ Collaboration for utilization
  ➢ Capacity building in conservation and breeding
  ➢ National implementation of the Treaty
THANK YOU!