# GENETIC RESOURCES FOR FOOD AND AGRICULTURE & INTELLECTUAL PROPERTY ISSUES
## Keeping free access to the world's plant genetic resources for food and agriculture

**ITDG[1] Briefing Paper for the IPR Commission, 8 May 2001**

> 14. *"Sovereign states cannot be required to adopt systems of IP in areas that risk the well-being of their peoples or that jeopardise the biological diversity within their borders. Neither should countries be expected to adopt unrealistic time frames to enact IP provisions related to international trade agreements.*
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> 15. *Any potential conflict between IP proposals and other initiatives for plant genetic resources conservation and exchange should be taken fully into account in interpreting responses to the GATT agreement. "People, Plants and Patents" (Crucible Group, 1994)"*

ITDG recognises that there has been and continues to be much debate over the suitability of patents and other forms of intellectual property rights (IPRs) for the protection of genetic resources for food and agriculture and considers, on balance, that they are better conserved and utilised through common access arrangements and the realisation of community, farmers' and traditional rights.

These biological resources for food and agriculture are the basis for life on earth – food and livelihood security and agroecosystem integrity – and also they form the main resource for the biotechnology and plant breeding industries. They are being manipulated, utilised and traded in ways hitherto unforseen and it is therefore important for human survival that care is taken in providing a technical, regulatory and legal framework for their conservation and sustainable use, that is competent to deal with these new pressures. Countries need to be able to exercise their rights in many intergovernmental forums to ensure this happens.

For 12,000 years, up until the industrialisation of agriculture, there was an increase in the variety of biological resources for food and agriculture - agricultural biodiversity or

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the genetic resources for food and agriculture, including plant genetic resources (PGR) and domestic animal genetic resources[2].

This agricultural biodiversity was evolved by farmers and herders as they selected seeds and local livestock breeds best suited to their particular tastes, social and economic requirements and local environmental niches, from a common pool of biological (genetic) resources that were exchanged freely. The development, use and open exchange of these resources have provided the basis of the food and livelihood security of humankind. There is significant erosion of agricultural biodiversity with some estimates that more than 90% of varieties of food crops have been lost from farmers' fields in the past century[3].

Greater investments are now being made in the development of new varieties produced with the aid of biotechnology. Plant breeding companies are seeking increased returns to cover their higher costs through extended marketing of these varieties in new areas. This will add to the pressures for varietal replacement. These seeds use genetic resources mainly taken from farmers' fields and stored in *ex situ* gene banks but the companies are not necessarily seeking to repatriate profits to the countries in which the genetic resources originated.

Claims by the biotechnology industry that it is essential to develop these varieties for human survival and that it will be only through industrial agriculture based on these biotechnologically produced seeds (including transgenic genetically modified seeds) that a growing world population will be fed, is contested by many people, especially in developing countries (see for example, Shiva, 2001; Action Aid,1998).

To guarantee increased returns, companies are seeking international protection of their varieties through legally enforceable plant breeders' rights (PBRs) and patents on seeds, breeds and biological processes, including biotechnology. It is this technologically-driven pressure that has provided the main stimulus to provide intellectual property protection on biological resources for food and agriculture. Many observers of these processes have summarised this history (see for example, Mooney, 1998; Pistorius, 1997; Fowler, 1994; Kloppenburg, 1988).

There is a recent technical development that may reduce the pressure from the plant breeding and biotechnology industries for plant breeders' rights and patents on seeds. Technology has been developed that limits, controls or prevents reproduction of farm-saved seed, the so-called 'Terminator Technologies' (RAFI, 2000; FAO 2001). Were there to be widespread development and use of these Genetic Use Restriction Technologies it would limit the need for protection of proprietary varieties as they would not be capable of simple reproduction by farmers. This technology clearly has potentially serious implications for livelihoods, biodiversity and evolution.

## Knowledge Systems

Globally, there are two distinct and potentially conflictive knowledge systems. The knowledge systems of the formal sector, of both private and public institutions, and the

[2] Definition of Agricultural Biodiversity. The variety and variability of animals, plants and micro-organisms used directly or indirectly for food and agriculture (including, in the FAO definition, crops, livestock, forestry and fisheries). It comprises the diversity of genetic resources (varieties, breeds, etc.) and species used for food, fodder, fibre, fuel and pharmaceuticals. It also includes the diversity of non-harvested species that support production (e.g. soil biota, pollinators and so on) and those in the wider environment that support agroecosystems (agricultural, pastoral, forest and aquatic), as well as the diversity of the agroecosystems themselves. (FAO/CBD 1997)

[3] Preparatory information for the Leipzig International Technical Conference on Plant Genetic Resources (FAO 1996)

knowledge systems of the informal sector of communities and individuals. The formal sector knowledge systems are codified, are recorded in writing and are defended through national and international law; the knowledge systems of the informal sector are often oral, are built on trust and are defended through the norms and practices of traditional institutions. The intellectual property (IP) of the former is recognised in law in industrialised countries and in the industrial sectors of developing countries. The latter has weak jurisprudence in its defence: there are no mechanisms to implement legislation and, in most cases, no legislation has yet been enacted, despite ratification of a number of international agreements, such as the Convention on Biological Diversity (CBD). It is left to individual governments to develop legislation that will ensure the protection of informal knowledge and the equitable sharing of benefits from its use.

The trend of commodification and privatisation of knowledge is prevalent. This is especially through moving knowledge and plant genetic resources from the informal sector into the formal sector, and from public domain to private ownership. It may result in the loss of knowledge and materials by, and benefits for, the originators of that knowledge and the associated biological resources, especially people and communities in the informal sector.

National level institutions clearly need to understand better the range of knowledge systems in their country, who benefits from them, how they are being exploited and how they are being protected. The livelihoods of the majority of people, especially in developing countries, may depend on their informal knowledge systems, which are often subject to predatory acquisition by the formal sector. There are many activities underway to assess these systems but more work is needed in most countries in order that there is a better understanding of the likely impacts of technological, institutional, legal and regulatory changes.

The potential conflict between the two knowledge systems does need to be recognised and social, technical and legal systems of protection for biological resources in the public domain and those used by, and for the benefit of, the majority need to be developed accordingly.

## ACCESS AND BENEFIT SHARING RELATED TO PGRFA

With particular reference to Plant Genetic Resources for Food and Agriculture (PGRFA) the CBD has invited the FAO to submit a revised International Undertaking (IU) in harmony with CBD. These negotiations are ongoing but it may be agreed in a series of meetings during the course of 2001.

You will be aware of the sensitive yet urgent nature of the negotiations on this important international agreement. The IU aims to conserve and sustainably use the genetic resources of the world's most important food crops and to ensure that benefits through their commercial use are returned to developing countries.

Furthermore, the IU has the potential to be a prime example of responsible global governance, ensuring that those genetic resources that underpin social needs are maintained in the public domain. These resources are our 'life insurance' against future adversity be it from climate change, war, industrial developments or ecosystem collapse.

**Failure in these negotiations could be extremely serious. In the view of many, ourselves included, failure could threaten food security not only among the smallholder farmers whose livelihoods depend on these resources but also consumers worldwide. Failure would also deny the farmers of the world the benefits they are owed for the contribution they have made through developing these genetic resources.**

**We believe, together with many who manage the world's public gene banks, that failure could lead rapidly to a severe reduction in the genetic diversity of food crops accessible to farmers and plant breeders from international, national and local collections. Failure would accelerate the decline of agricultural biodiversity on-farm, where, according to some estimates, more than 90% of crop varieties have been lost in the past century.**

**Benefits of a legally-binding IU**

The International Undertaking can be an important countervailing force to the threats described above. Although very detailed negotiations about its exact text are continuing, in broad outline the IU could:

- **Reduce conflict over WTO/TRIPS.** Both the general rules on agriculture, and the specific article on intellectual property rights, were due to be reopened in the new round of WTO negotiations which the Seattle meeting sought to start. The negotiations were halted by international protest focusing on unfair terms of trade on agriculture and the possibility of an extension to TRIPS in particular. **The IU could pave the way for the exemption of an entire category - genetic resources for food and agriculture - from TRIPS, and from other forms of intellectual property claims --** if it became a legally-binding part of the CBD.
- **Ensure access for all.** The objective of the IU is to ensure that plant genetic resources for food and agriculture are 'explored, collected, conserved, evaluated, utilized and *made available* for plant breeding and scientific purposes' – based on the guiding principle that these resources should be **"preserved… and freely available for use, for the benefit of present and future generations"**. This requires that all who need to, including the farmers of developing countries (who are the principal plant breeders of the world), should continue to have access to the germplasm – in other words, that it should remain in the public domain and cannot be privatised [Article 11]. It will then establish a mechanism for multilateral access to the resources which will reduce 'biopiracy' [Article 12].
- **Ensure that farmers reap the benefits.** As noted above, farmers' ability to survive and prosper through the on-farm conservation and management of agricultural biodiversity is extremely fragile. The IU proposes benefits to farmers and others in return for allowing multilateral access to the resources which they have developed. However, they also include **financial benefits from the commercial use** of plant genetic resources for food and agriculture to which access is restricted by IPRs – an effective 'Tax' on IP. ITDG would also like to see contributions from the Food Industry for the use of PGRFA.
- **Protect Farmers' Rights.** Farmers' Rights include the right to save, use, exchange their seed. Farmers' centuries-old traditions and practices of communal ownership, access and exchange to plant genetic resources for food and agriculture depend on unwritten and 'customary' rules. These require protection from regimes of intellectual property rights. We would like to see these rights to include the right "to sell seeds in customary manners and markets".

Together with 327 other Civil Society organisations from 59 countries, ITDG sent a letter to the FAO negotiator encouraging them to complete negotiations of a just and equitable IU. We believe that the IU provides a responsible form of governance and would commend this to you for your consideration as an alternative way of dealing with Intellectual Property issues relating to genetic resources for food and agriculture.