

## **Sustaining Agricultural Biodiversity and the free flow of Genetic Resources for Food and Agriculture**

### **SUMMARY**

Food security, livelihoods and environmental integrity are underpinned by the agricultural biodiversity and genetic resources that have been developed by farmers, livestock keepers and fisherfolk throughout the world. Much of this agricultural biodiversity is being lost both on-farm and in gene banks. Urgent actions are needed to safeguard these resources. Agreement, by the FAO Conference in November 2001, of a just, equitable and comprehensive International Undertaking on Plant Genetic Resources, could ensure the free flow of genetic resources for food and agriculture. It would also facilitate implementation of existing FAO and CBD agreements and decisions that will enable improved conservation and sustainable use of these resources.

Civil Society and Farmers' Organisations, as agreed at the 1996 World Food Summit NGO Forum, have been supporting a wide range of policy enhancements and research and development activities that enhance diversity, rights and local food and livelihood security. A few examples are provided of CSO work with local communities in maintaining crop diversity, conserving domestic animal diversity, restoring marine diversity, developing agro-ecotourism, facilitating farmers' voices in the biotech debate, challenging perverse patents, protecting Farmers' Rights, monitoring IPR encroachment. Concerted actions by CSOs and Farmers' Organisations are required across a range of activities, policies and international instruments.

Governments, however, while negotiating the IU, have themselves been promoting or facilitating, or tolerating corporate sector involvement in, a wide range of actions that are undermining diversity, threatening access to genetic resources, destroying rights, spreading genetic pollution and compromising food sovereignty for example by:

- Allowing spread of GMOs and genetic pollution, despite agreeing the Biosafety Protocol
- Allowing ongoing research into, patents on and licensing of Genetic Use Restriction Technologies (GURTs), especially Terminator technologies
- Promoting globalisation of markets through WTO rules that reduce local options for socially and environmentally sustainable production that sustains local diversity
- Failing to implement a substantive review of WTO/TRIPs Article 27.3(b) on life patents
- Tolerating widespread patent abuse and biopiracy
- Allowing unparalleled increase in Corporate power in the Life Sciences industry
- and even on those decisions that are purposeful, making little progress in implementing them, for example the Leipzig Global Plan of Action on plant genetic resources for food and agriculture, the Agricultural Biodiversity decisions of the Convention on Biological Diversity and FAO and Commitment 3 of the WFS Plan of Action

As the World Forum on Food Sovereignty, a preparatory CSO and Farmers' meeting for the World Food Summit: five years later, concluded in August 2001:

*"Genetic resources are the result of millennia of evolution and belong to all of humanity. Therefore, there should be a prohibition on biopiracy and patents on living organisms, including the development of sterile varieties through genetic engineering processes. Seeds are the patrimony of all of humanity. The monopolisation by a number of transnational corporations of the technologies to create genetically modified organisms (GMOs) represents a grave threat to the peoples' food sovereignty. At the same time, in light of the fact that the effects of GMOs on health and the environment are unknown, we demand a ban on open experimentation, production and marketing until there is conclusive knowledge of their nature and impact, strictly applying the principle of precaution."*

### Box 1. INTERNATIONAL THREATS and OPPORTUNITIES

The international agenda on genetic resources for food and agriculture has been dominated over the past 5 years by the renegotiation of the International Undertaking on Plant Genetic Resources (IU)

The negotiations have taken place in the negative context of:

- an increase in patenting of genetic resources and concomitant biopiracy
- a rapidly expanding area sown to genetically modified crops,
- the development of 'Terminator Technologies' and GURTs,
- the stalled negotiations on the revision of Article 27.3(b) of the WTO Agreement on Trade Related aspects of Intellectual Property Rights (TRIPs) that concerns patents on genetic resources,
- an increasing number of countries signing up to the UPOV convention on plant breeders' rights.

More positively, however,

- the Africa Union's draft model legislation on Community Rights was adopted by African Heads of State in 1999,
- the Biosafety Protocol on international trade in GMOs / LMOs was adopted in Jan 2000 and
- FAO and CBD agreed a series of Decisions on agricultural biodiversity (CBD/COP Decisions III/11, IV/6 and V/5; FAO Council Decisions) which include further commitments to the implementation of the 1996 Leipzig Global Plan of Action on Plant Genetic Resources for Food and Agriculture.

### Box 2. INTERNATIONAL UNDERTAKING ON PLANT GENETIC RESOURCES (IU)

The IU aims to conserve and sustainably use the genetic resources of the world's most important food crops and to ensure that benefits from their commercial use are returned to farmers in developing countries, the original source of most of these resources. It will implement a "**Multilateral System**" (as opposed to the existing CBD "Bilateral System") of access to a list of food and fodder crops essential for food security and interdependence for those countries that sign the treaty. It will implement **Farmers' Rights to** access genetic resources, to use, save and sell seeds and participate in decision making, although these Rights will be subordinate to national laws. A governing body and a financial mechanism will ensure its operation.

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 a new disease or insect challenge, a biotechnological disaster or from climate change, war, industrial developments, ecosystem collapse or other calamity: to "future-proof" the genetic resources of the world's major crops.

The FAO Commission on Genetic Resources for Food and Agriculture has completed the negotiations on most of the text of the IU but three major issues are still outstanding:

- **Intellectual Property Rights:** Can these resources, if transformed or modified and included in new varieties, be patented without penalties? **CSOs think the IU should keep these resources in the public domain** - the disputed case of Percy Schmeiser v Monsanto, which is claiming a \$26,000 'technology fee' because their genes have polluted his Canola crop in Canada, shows how quickly Farmers' Rights can be eroded by perverse Patent Law;
- **Relationship with the WTO:** Will the IU be subordinate to the World Trade Organisation and especially its Agreement on Trade Related aspects of Intellectual Property Rights (TRIPs)? **We think it should have precedence over the WTO** in so far as crops are concerned; and, crucially,
- **List of Crops:** What crops and forages will actually be included in the IU? at present, only 35 to 40 crops are included but *Onion, Garlic, Groundnut / Peanut, Oil Palm, Soybean, Tomato, Sugarcane and Minor Millets* are among important crops missing from the Treaty, and only 29 forages are included. **We think the List should be significantly larger** covering at least most of the CGIAR mandate crops as well as crops important for nutrition.

After seven long years of renegotiation as a legally-binding treaty in harmony with the CBD, failure would be a dereliction of duty by government, but, in order to be effective, the IU must be:

- **just** - a level playing field on access rules without any threat of privatisation and biopiracy
- **equitable** - provide reasonable benefits to poor farming communities in developing countries, and
- **comprehensive** - contain a full list of the crops and forages that are vital for food security.

The IU negotiations will have to conclude at the FAO Council and Conference in November 2001.

See <[www.ukabc.org](http://www.ukabc.org)> for details

## GENETIC RESOURCES / AGRICULTURAL BIODIVERSITY AGENDA WILL DOMINATE THE WORLD FOOD SUMMIT: five years later

*"Agricultural Biodiversity encompasses the variety and variability of animals, plants and micro-organisms which are necessary to sustain key functions of the agroecosystem, its structure and processes for, and in support of, food production and food security" (FAO, 1999).*

Since the dawn of agriculture 12,000 years ago, humans have nurtured plants and animals to provide food. Careful selection of the traits, tastes and textures that make good food resulted in a myriad diversity of genetic resources, varieties, breeds and sub-species of the relatively few plants and animals we use for food and agriculture - agricultural biodiversity<sup>1</sup>. Agricultural biodiversity also includes the diversity of species that support production - soil biota, pollinators, predators and so on - and those species in the wider environment that support diverse agroecosystems - agricultural, pastoral, forest and aquatic ecosystems. These diverse varieties, breeds and systems underpin food security and provide insurance against future threats, adversity and ecological changes. Agricultural biodiversity is the first link in the food chain, developed and safeguarded by farmers, livestock keepers and fishers throughout the world. It has developed as result of the free-flow of genetic resources between food producers.

This agricultural biodiversity is under threat. Animal breeds, plant varieties and the genetic resources they contain are being eroded at an alarming rate - more than 90% of crop varieties lost from farmers' fields in the past century - and urgent actions are needed to reverse this trend and to protect the genetic resources stored in public gene banks, which are often poorly maintained, . Threats to these resources include pollution with genetically-modified material and the increasing use of intellectual property rights (IPRs) to claim sole ownership over varieties, breeds and genes, which thereby restricts access for farmers. This loss of diversity is accelerating the slide down the slippery slope of food insecurity that today sends more than 1.5 billion people to bed, hungry. Access to Genetic Resources should be widened to include all of agricultural biodiversity, for it is the whole complex, developed through human activity on food production, that is under threat.

The way forward is to work with farmers and livestock keepers who are the principal managers of terrestrial ecosystems and with artisanal fisherfolk who safeguard aquatic resources. In 1996 the CSO Forum at the World Food Summit agreed that Farmers' Rights should be the "*fundamental pre-requisite to the conservation and sustainable utilisation of agricultural biodiversity*". Ways must be found for society to work with them and their communities, to recognise their contribution to food security and ecosystem management and to recognise as inalienable their rights of access to and use of the resources together with their rights to share in the benefits arising from the commercial use of these resources by others. (After all, the US\$2 trillion food industry derives all its income from the use of genetic resources.)

International actions on genetic resources over the past 5 years (see Box 1 opposite) have rendered more or less ineffective the implementation of any of the activities concerning access to and the sustainable use of genetic resources agreed by governments in Commitment 3 (Sustainable Agriculture) of the Plan of Action of the 1996 World Food Summit.

Despite this, Civil Society Organisations, as they agreed in their parallel NGO Forum in 1996, have been active both in supporting local farming communities in sustaining their agricultural biodiversity and in challenging the expansion of corporate power over genetic resources and the GM technology research agenda. Not least, CSOs have been actively participating in the negotiations on the International Undertaking (see Box 2 opposite), will culminate in November at the FAO Council and Conference. This should ensure the free-flow of genetic resources for food and agriculture,

Given this context, the proceedings at the *World Food Summit - five years later* could be dominated by discussion on the use and abuse of genetic resources, IPRs and wider issues affecting the sustainable use of agricultural biodiversity by and for farmers.

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<sup>1</sup> **Agricultural Biodiversity** comprises the diversity of genetic resources, varieties, breeds, sub-species and species of crops, livestock, forestry, fisheries and micro-organisms used for food, fodder, fibre, fuel and pharmaceuticals. Agricultural biodiversity results from the interaction between the environment, genetic resources and the land and water resources management systems and practices used by culturally diverse peoples, for food production

## **SOME NGO/CSO ACTIVITIES SINCE 1996**

Despite hesitant progress by governments and intergovernmental bodies on some aspects of conservation and sustainable use of genetic resources the overwhelming trends have been negative as broadly unregulated corporate agribusinesses increase their stranglehold on these resources, eliminating diversity. It has been left to Civil Society - farmers, their organisations and NGOs/CSOs - to keep this diversity alive. Over the past 5 years there have been many activities in all continents lead by local communities and supported by CSOs. A few of these are highlighted below.

### **MAINTAINING CROP DIVERSITY**

#### **Celebrating Seed Diversity**

##### ***Seed Fairs in Kenya<sup>2</sup>***

Seed fairs are increasingly popular modes of promoting diversity. In Tharaka, Kenya, they have been held annually since 1996, having been initiated in an NGO project development area. In 1998, displays were mounted by 29 women and 47 men as well as some community groups. The displays are evaluated by a panel of judges and the most diverse are awarded prizes. The total number of crop varieties displayed increased in 1998 to 149 from 134 in 1997. In 2001, 46 farmers displayed 206 varieties. Participants gave the following reasons why they liked the seed show: farmers obtain rare crop varieties from the seed show; they identify seed sources through the show; it is a good forum for exchange of ideas on farming and exchange of seeds; farmers are exposed to national agricultural research work; the spirit of competition boosts farmer's morale and motivates farmers to diversify their crops indirectly enhancing food security; and it is a platform for interaction between farmers, students, researchers, extension staff and other development agents.

*ITDG East Africa*

##### **Emergency Seeds for Agricultural Recovery in Tanzania<sup>3</sup>**

The Lake Zone and Arusha Region are among the areas that were hard affected by the 1999 – 2000 drought. From mid-2000, CRS Tanzania started receiving requests for food assistance from the above-mentioned dioceses. However, it was already evident that free relief distribution is no longer the best option to help people recover from disasters. Therefore, CRS agreed with the affected households in communities to help them recover by providing them with seeds as a more sustainable way to produce not only their own food but also their own seeds for the coming seasons. The most vulnerable households were provided with vouchers to buy seeds at special seeds fairs that were organised within their respective villages. On one hand, local farmers and seed vendors were encouraged to bring whatever good seed they had for sale at the fair sites. On the other hand, beneficiaries of the vouchers were left free to buy seed of their choice, suitable for their farms and for the nutritional or economic needs of their families. Although the project areas had had severe droughts and crops failures, it was surprising to discover that certain community members had quantities of good seeds to sell at the fairs. The main lesson learnt is that the traditional seed system is very resilient and able to withstand even four years of drought. The seed fairs showed that even though the seed coping mechanisms had collapsed for the more vulnerable in the community, there were still seeds available in the community to meet their needs.

*CRS Tanzania*

##### **Community Seed Banks. in Paraíba, Brazil<sup>4</sup>**

The north-eastern region of Brazil is known for its dramatic periods of drought. At the state of Paraíba, the lack of water available to small farms represents a major constraint on the food security of the local community. In these systems<sup>5</sup>, diversity is synonymous of food security.

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<sup>2</sup> See <[www.ukabc.htm/abc.htm](http://www.ukabc.htm/abc.htm)>

<sup>3</sup> Interim Report on Emergency Seeds for Recovery Projects, CRS Tanzania, Edward W. Charles (Programme Representative) and Juvenal Kabiligi (Senior Project Manager) CRS Tanzania [Edward@crstanzania.org](mailto:Edward@crstanzania.org); [Juvenal@crstanzania.org](mailto:Juvenal@crstanzania.org)

<sup>4</sup> From AS-PTA Brazil <[aspta@alternex.com.br](mailto:aspta@alternex.com.br)>

Farmer access to seeds has been very difficult. The region's precipitation regime allows only one crop cycle per season and the reduced areas of the farms (most are under 5ha) does not provide enough seed production for feeding the family and keeping seeds for the next crop. Because of this, some local varieties have been lost.

Two other factors contribute negatively to genetic erosion:

- farmers need to adopt crop varieties to meet market demands;
- government seed programmes where only a few commercial varieties are distributed.

This collective seed supply and husbandry through Community Seed Banks (CSBs) is being built through participatory approaches and has furthered farmers' autonomy by timely provision of seeds and conservation of agricultural biodiversity. AS-PTA and other local organisations have trained farmers who by 2000 had organised 220 CSBs, benefiting 6,920 families, storing over 80 tons seeds of the main crop varieties, including 67 varieties of three different bean species.

*AS-PTA*

### **CONSERVING DOMESTIC ANIMAL DIVERSITY**

#### **Reintroduction of Polish Red Cattle<sup>6</sup>**

Polish Red cattle is an old local race that is very useful in some specific conditions especially in hilly and mountainous regions where controlled grazing protects slopes against erosion. They are being replaced by supposedly higher potential animals, which are often not suitable for the local conditions. To protect this local breed, Heifer International's office in Poland worked with the community of Łęgocina to revitalise and increase the population of Polish Red Cattle in the region. 79 head were reintroduced to local farms. Farmers appreciate these cattle, because of their high productivity and resistance to disease. As a result Łęgocina has also retained its beautiful landscape that attracts many visitors, supporting agro-tourism development. Moreover, the cattle constitute a very valuable genetic resource. In the year 2000 National Livestock Show, a Polish Red cow from Łęgocina was awarded the National Vice-Championship.

*Heifer International Poland*

### **RESTORING MARINE DIVERSITY**

#### **Constructing Artificial Reefs<sup>7</sup>**

In Kerala, SW India, local CSOs have worked with artisanal fishing communities to restore aquatic biodiversity in their fishing grounds. The solution was the construction of simple artificial reefs by village fishermen in response to loss of fishing grounds through destructive effects of trawling. India is the world's 7th largest producer of fish products and one quarter of India's catch is from the artisanal fishermen of Kerala who use very simple craft and gear. In the 1960's Norwegian fishery advisors advocated the introduction of trawlers. The village fishermen survive at subsistence levels and did not have the capital to invest in this technology. They saw the market price of their catch collapse, fall in catches through overfishing and destruction of natural reefs. Militant actions were taken to keep trawlers away. Kerala fishing policy was changed, introducing a closed season for trawlers. But the fisherfolk took long-term actions themselves.

Artificial reefs were constructed using any available materials, rocks, coconut palm stumps, tyres, concrete well rings and later triangular ferro-concrete units cast on the beach. These have restored aquatic ecology and fish breeding sites, provided inshore fishing sites (especially valuable for training youngsters and providing continuing occupation for elderly fishermen), made the fishery more reliable (with attendant financial benefits for subsistence economy) and created a sense of ownership and stewardship for the resource. The unmarked reefs also protect the artisanal fishing grounds by erecting on the sea floor a significant disincentive to trawlers whose nets snag on the underwater obstructions.

*International Collective in Support of Fishworkers (ICSF)*

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<sup>5</sup> Family farms units are composed by home gardens, crop areas (corn, bean and cassava, mainly), pastures and orchards (esp. banana and citrus)

<sup>6</sup> Contact Katarzyna Malec HI Poland <[malec@delta.sggw.waw.pl](mailto:malec@delta.sggw.waw.pl)>

<sup>7</sup> Contact ICSF <[mdsaad06@giasmd01.vsnl.net.in](mailto:mdsaad06@giasmd01.vsnl.net.in)>

## **DEVELOPING AGRO-ECOTOURISM**

### **Promoting on-farm conservation of Andean tubers through agro-ecotourism, Peru<sup>8</sup>**

Cusco is important for tourism in Peru because it is the centre of pre-Hispanic Inca culture; however, the rural population benefits only marginally. One source of income is through the sale of their produce, mostly derived from the unique biological resources of the region. In recent years there has been a loss of traditional conservation practices and other customs (food, dress, etc.). This has been mainly because of the expansion of the use of high-yielding species and varieties in commercial agriculture, climatic factors, pests and diseases, inappropriate agrarian policies and development activities and poverty, which increase the migration of indigenous youth (with their knowledge, experience and customs of traditional Andean agriculture).

In the communities included in the present initiative, it is the local farmers who have conserved the wide range of local varieties of Andean root crops on farm. Rather than maximisation of yield or income they recognise the need to spread risks by planting mixtures of species on their small parcels of land to guarantee a harvest every year. The incentive provided by the development of agro-ecotourism could facilitate new mechanisms for promoting traditional conservation and sustainable use practices.

During guided tours to the communities, tourists will see the remarkable morphological and agronomic variety of Andean plants and tubers in demonstration plots, a potato museum and restaurants with menus based on traditional Andean produce. This proposed initiative intends to support a school education programme about Andean crops and culture and the participation of the young people in agro-ecotourism in order to reduce migration.

*ANDES/IPBN*

## **FACILITATING FARMERS' VOICES IN THE BIOTECH DEBATE**

### **Citizens Juries on GMOs<sup>9</sup>**

ActionAid recently began a series of Citizens' Juries that are bringing the perspectives of the developing world's farmers to national and global debates on GM crops. The Indian farmers turned the debate around: instead of experts from the developed world telling the people of the developing world what is good for them, a spectrum of those who could be affected by GM crops judged whether they could make their livelihoods better, or whether such crops would increase their poverty and insecurity. The jury demonstrated that the poorest farmers can have a sophisticated knowledge of the way new types of crop can impact on their lives. They saw interlinkages between different elements of new agricultural technologies that scientists and other specialists often miss.

Based on their mixed experience of the Green Revolution, the farmers were sceptical of GM crops, with a two to one majority saying they did not want to grow them. They also called for a 5–10 year moratorium on the commercial release of GM seeds and for a system of insurance to protect their livelihood from the increased risks they would face. They had some useful suggestions for how the potential of future crop technologies could be improved, especially by becoming more farmer-led. ActionAid is repeating this process in other parts of the world so that the views of those with a real, practical knowledge of 'feeding the world' are put in their proper place at the forefront of the biotechnology debate.

*actionaid*

## **CHALLENGING PERVERSE PATENTS**

### **Patent challenge on Basmati rice<sup>10</sup>**

In September 1997 a Texas-based company, RiceTec Inc., won a controversial US patent (No. 5,663,484) on basmati rice lines and grain. Basmati rice has been grown for centuries in what was the Greater Punjab region, now divided between India and Pakistan.

<sup>8</sup> Summary available at <<http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/EPdirect/EPRe0066.htm>>

<sup>9</sup> Full report on <http://www.actionaid.org/pdf/jury.pdf>

<sup>10</sup> See <<http://64.4.69.14/web/docus/pdfs/basmatiupFD.pdf>> accessible also through <[www.rafi.org](http://www.rafi.org)>

Farmers in this region have selected and maintained Basmati rice varieties that are recognised worldwide for their fragrant aroma, long and slender grain and distinctive taste. RiceTec's basmati patent has become widely known as a classic case of 'biopiracy.' Not only does the patent usurp the basmati name, it also capitalises on the genius of South Asian farmers. The patent applies to breeding crosses involving 22 farmer-bred basmati varieties from Pakistan and India. The sweeping scope of the patent extends to such varieties grown anywhere in the Western Hemisphere (although the patent is valid only in the US).

There are numerous legal and technical concerns with respect to RiceTec's patent and its use of the name basmati. Ultimately, RAFI, the Berne Declaration and the Gene Campaign conclude that the core issue is morality. Farmers have selected and bred aromatic rice over generations. It is indecent and unacceptable for the genius of millennia to be usurped by a US-based company (controlled by European royalty). RiceTec's patent is predatory on the rights and resources of South Asian farmers, and it should be abandoned.

*RAFI / ETC Group*

## **PROTECTING FARMERS' RIGHTS**

### **Contamination of crops with GM genes becomes farmer's crime<sup>11</sup>**

Percy Schmeiser, a Canadian farmer, is the victim of Monsanto's contamination of his fields and crops by roundup-ready *canola* (oil seed rape) plants. This *canola* has spread involuntarily into his fields but Monsanto claim that they own his crops because their intellectual property (round-up ready genes) is contained in them. As a consequence, they claim his crop and all profits from it. He is appealing a decision by the Canadian courts that he is guilty of patent infringement. If Monsanto wins, it could claim any crop that becomes contaminated.

Of even greater concern than the harm done to Percy and Louise Schmeiser, is how this decision will affect all western Canadian farmers - regardless of whether they even grow canola, let alone GM canola. Land can be contaminated with proprietary seed in other ways. Intentionally planted RR canola [or any other herbicide tolerant (HT) canola], will lead to soil contaminated with shattered RR seed which might germinate not only the next year but in subsequent years. Emergence of 'volunteer' canola in subsequent crops is nothing new in western Canada - but what is new is that the volunteer plants bear proprietary genes and are tolerant to one or more common herbicides. Cross contamination of seed crops with GM seed is now so pervasive that seed companies will no longer guarantee "100% GM-free" even in the seed they sell to farmers, for any field crop that has been subject to genetic modification.

*IATP and others*

## **MONITORING IPR ENCROACHMENT**

### **TRIPs-plus<sup>12</sup>**

A limited, sample survey of bilateral agreements between developed and developing countries in five areas has been carried out to see how TRIPs-plus standards, with respect to biodiversity, are being imposed on developing countries. Five types of treaties were examined: trade, investment, aid, science and technology, and IPR. By far the most specific, in terms of TRIPs-plus measures are the bilateral trade and IPR agreements. The bilateral investment treaties, by contrast, are far less explicit but potentially even more damaging.

The criteria for what constitutes a TRIPs-plus treaty with respect to biodiversity are laid out in Table 1.

Using the TRIPs-plus criteria described above, and looking at only a portion of these agreements, 23 cases of bilateral or regional treaties between developed and developing countries that should be classed as TRIPs-plus as far as IPR on life forms is concerned, have been identified. These agreements affect more than 150 developing countries,

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<sup>11</sup> See <[www.percyschmeiser.com](http://www.percyschmeiser.com)>

<sup>12</sup> See <<http://216.15.202.3/docs/trips-plus-en.pdf>>

suggesting that there is a deliberate process being pursued to appropriate developing countries' IPRs.

**Table 1: Criteria for TRIPS-plus status of bilateral treaties**

SUBJECT MATTER	TRIPS-PLUS PROVISIONS ENCOUNTERED	WHY THIS IS TRIPS-PLUS
Plants	Extension of standards of protection, such as: - reference to UPOV - no possibility of making exclusions from patentability for life forms - reference to "highest international standards"	- UPOV is not a reference in the TRIPS agreement. There is no explicit measuring stick for "effective sui generis system" and developing countries believe that they have options aside from UPOV. - TRIPS allows countries to exclude plants and animals from patent protection. - "Highest international standard" is vague and there is no indication that it refers to TRIPS. While not automatically TRIPS-plus, it is highly suspect, particularly in the context of Most Favoured Nation treatment of investments under the bilateral investment treaties.
Animals	same as plants	same as plants
Micro-organisms	Requirement to accede to the Budapest Treaty	There is no reference to Budapest Treaty in TRIPS. This treaty obliges parties to recognise the physical deposit of samples of micro-organisms, in lieu of full written disclosure of the invention, through an international depository authority.
Biotech	Requirement to protect "biotechnological inventions"	There is no reference to "biotechnology" in TRIPS. This introduces a new category for intellectual property protection. It also very strongly implies, where it is not stated, the availability of patent protection for plants and animals.

GRAIN

## AGENDA FOR ACTION<sup>13</sup>

Governments, while negotiating the IU, have themselves been promoting or facilitating, or tolerating corporate sector involvement in, a wide range of actions that are undermining diversity, threatening access to genetic resources, destroying rights and spreading genetic pollution.

Concerted actions by CSOs and Farmers' Organisations are therefore required across a range of activities, policies and international instruments. Key elements of this agenda are:

### GENETICALLY MODIFIED ORGANISMS

#### ***GENETIC POLLUTION and the BIOSAFETY PROTOCOL***

An ever larger area is being sown to GM crops, increasingly in developing countries. More alarming is the spread of genetic pollution into conventionally bred crops and wild relatives. GM contamination of local varieties of Maize/Corn in Mexico, its centre of origin, brings into question the viability of guaranteeing the integrity of on-farm and ex situ collections in Mexico, including those in CIMMYT. North American and European fields are permanently contaminated with GM rape/canola and, in Europe, this will spread to local wild populations in its centre of diversity. Rio Grande do Sul State in Brazil wants to keep GM free status, especially of Soya beans, but is being threatened GM pollution and federal policy. .

The strategy by the large companies producing GM seeds would appear to be one of deliberate pollution on-farm or in the seed processing plants so that in the end it will no longer be possible to claim any foods or crops are GM free. Industry and regulators are pushing for acceptance of GM pollution, even in 'organic' and 'GM free' foods.

<sup>13</sup> Sources are not provided in this section but are available from the author



Farmers and consumers are unwilling victims of this pollution. Local varieties of crops may well become contaminated through cross-pollination, mixed seed stock, illegal imports of GM seed or contaminated food aid grain being unwittingly used as seed. Contaminated GM fish stock are escaping into the wild. GM trees are long-term producers of GM pollution.

GM pollution is the latest threat to food sovereignty and should be addressed with utmost urgency by all competent intergovernmental, international and national bodies. The effects of GMOs on health and the environment are unknown. Until there is improved information about how agricultural GMOs function, what their impacts are within the genome, between varieties and species and on the environment and human health and conclusive confirmation that they will not cause harm in the long-term, **there should be a ban field experiments, production and marketing of agricultural GMOs. The precautionary principle should be strictly applied. There should also be rapid ratification and full implementation of the Biosafety Protocol on transboundary movements of LMOs, capacity building to enable communities and countries to make sound judgements about the technology and its possible social, technological, environmental and economic impacts, and agreement to implement clauses on liability and redress. The Biosafety Protocol should be especially vigilant on releases of GM seeds in Centres of Diversity.**

### ***GURTs***

Genetic Use Restriction Technologies (GURTs) have been developed by the seed and biotechnology industry and one government for the principal purpose of restricting use: limiting access to, and use of, genetic resources only to technology owners or licensed users who purchase seed each year or who buy proprietary chemicals that would change traits in these GM plants. Almost all of the major companies that control the agricultural biotechnology market have patents on GURTs. In August 2001, the USA licensed the first V-GURT (Terminator technology) application, in which it also has a financial interest. GURTs are a clear threat to food security, food sovereignty and agricultural biodiversity and, in the case of V-GURTs, deny Farmer's Rights by preventing farmers from saving seeds.

In concert with many countries, CSOs demand that V-GURTs be banned outright, and patents denied, for moral and ethical (*Ordre Public*) reasons. Also, as called for by CSOs in CBD/COP 5 in May 2000, and in accordance with the Precautionary Principle, **genetic trait control technologies (T-GURTs), should not be approved for field testing or commercial use until in-depth, independent environmental, socio-economic, and potential "military" impact assessments have been carried out. CBD / COP 6 will consider these issues and CSOs will again call for a ban on GURTs without any further delay.**

## **TRADE**

### ***WTO***

Some countries have proposed that a new WTO Agreement on Agriculture (AoA) should be negotiated. Others favour evaluating the existing Agreement's impacts on food production, livelihoods and the environment first, before any new set of rules are developed. The unqualified promotion of globalisation of markets through WTO rules that reduce local options for socially and environmentally sustainable production that sustains local food security and diversity, has impoverished many communities. **There should be no further liberalisation through the AoA, nor indeed a new Round, until the impacts of the current Agreement are assessed, including impacts on agricultural biodiversity.**

### ***FOOD DUMPING***

Cheap imports of food can provide relief during emergency food shortages or a way to lower food prices for consumers or local food processors without spending any public funds. Some developing country governments have therefore chosen to accept dumping for short-term reasons.

However, cheap imports send the wrong message to the importing country's agricultural sector, resulting in long term damage to production. Taking full advantage of cheap imports dumped on them by developed countries like the United States, developing countries have often ignored agricultural sectors and the resources on which it is based, or have even indirectly taxed them, in order to protect industrial development. The result has been a loss of productivity in agriculture, and thus depressed farm incomes, in these countries. This only exacerbates the need for future imports, which may or may not be available at "dumped" prices. For their part, spokespeople for the U.S. government have been explicit in their use of food aid and other dumped exports to create future markets that will eventually buy their food from U.S. exporters

Dumping is clearly only one of several factors affecting food security, but the weight of evidence suggests the long-term impact on food security, livelihoods and the environment is negative and difficult to reverse.

**WTO rules should allow, especially poor countries, to protect their own food producers, agricultural biodiversity and local trade.**

## **INTELLECTUAL PROPERTY RIGHTS and BIOPIRACY**

The diversity, development and sustainable use of the wide range of biological resources developed by farmers is severely threatened by industrial intellectual property systems that will reduce free access and availability of resources. These systems facilitate biopiracy as exemplified by headline cases of Basmati rice, Quinoa, Neem and Llacon. The IU may also, if it does not reject IPRs on the genetic resources in the Multilateral System, increase biopiracy by increasing access to genetic resources that can subsequently be privatised. To confront these threats four actions must be taken:

- **TRIPs Art. 27.3(b)** that deals with patents on life **must be substantially reviewed** to permit countries to argue for all genetic resources for food and agriculture and plant varieties to be excluded from obligatory patentability. It must be made explicit that the International Union for the Protection of New Varieties of Plants (**UPOV**) Convention is not the only *sui generis* alternative to patents on plant varieties.
- The World Intellectual Property Organisation's (**WIPO**) "Intergovernmental committee on intellectual property and genetic resources, traditional knowledge and folklore" will consider rights to genetic resources for food and agriculture. **The committee must facilitate recognition of the African Union's Model Legislation on Community Rights by other regions as an alternative to TRIPs.**
- **The IU must not facilitate biopiracy. It must be unequivocal in its rejection of IPRs on material in the Multilateral System.**
- **The legal right to patent mere discoveries of genes and gene sequences, and varieties and breeds that are distinguished by traits found in existing farmers' and gene bank material, must be revoked by Patent Offices.**

## **CONCENTRATION OF POWER**

### ***CORPORATE CONTROL OF LIFE SCIENCES***

The past five years has seen unparalleled increases in Corporate power in the Life Sciences industry. For example, only 10 companies control a third of the global seed industry. Tacit and informal interpretations of the WTO / TRIPs agreement Article 27.3(b) are encouraging countries to join the UPOV convention, which will further strengthen Plant Breeders' Rights that favour industry. The agricultural Research and Development agenda is dominated by a few private sector agribusinesses, with funding several orders of magnitude higher than public sector research, that are prioritising GM technologies, protected by gene patents. **There should be increased regulation and democratic controls over the ownership, investment in and activities of the Life Sciences industry to prevent their domination of agricultural research, genetic resources and agricultural practices.**

## GENETIC RESOURCE CONSERVATION AND DEVELOPMENT

### **INTERNATIONAL UNDERTAKING on PLANT GENETIC RESOURCES**

Civil Society Organisations (CSOs) are urging governments to negotiate energetically to resolve the outstanding issues on IPRs, relationship with the WTO and the List of Crops so that the International Undertaking (IU) can be agreed in November 2001 at the FAO Conference (see Box 2 on page 2). While agreement is essential, CSOs insist that the IU must not only ensure guaranteed access to the genetic resources for food and agriculture required by farmers and the implementation of Farmers' Rights, but also it must ensure that these resources and their "parts and components" cannot be privatised through IPR systems. CSOs argue that the phrase "in the form received" be deleted from current Article 13.3.d as this implies that subsequent alteration of the material would allow its privatisation.

**Genetic resources for food and agriculture should be kept in the public domain and biopiracy outlawed, otherwise why should farmers and their communities provide access to their resources, only to see them privatised.**

CSOs also insist that the IU must deliver benefits to farmers in developing countries, through mandatory payments and the financial mechanism, that are commensurate with the benefits humankind derives from the use plant genetic resources for food and agriculture. The food we eat comes from these resources and farmers expect a reasonable share of the benefits that rich consumers derive.

It is imperative to agree the IU as it will keep political space open for the intergovernmental discussion of these vital issues. As GRAIN notes *"The governing body that will manage the Undertaking, and the multilateral system, should provide a political platform where issues related to crop genetic resources can be dealt with openly at the international level. Everybody, but especially farmers at the local level in need of continued access to agricultural biodiversity, stands to win from such a system."*

### **GENETIC RESOURCES & AGRICULTURAL BIODIVERSITY PROGRAMMES**

Little progress has been made by governments in implementing the Leipzig Global Plan of Action on plant genetic resources for food and agriculture, the Global Strategy for the Management of Farm Animal Genetic Resources and the Agricultural Biodiversity decisions of the Convention on Biological Diversity (CBD) and FAO. The reform of the CGIAR is barely perceptible to Civil Society and Farmers' organisations, and yet it has to change in order to protect publicly-funded, farmer-centred research and development and safeguard the more than 500,000 accessions in its gene banks provided by farmers over many decades. The IU may prove its salvation, if it can effectively provide an intergovernmental governance structure, especially for the gene banks.

Increased funding should be provided for this work, and increasingly directly to Civil Society and Farmers Organisations, through bilateral and multilateral sources, for example, by the Global Environment Facility (GEF), which has budget lines for the conservation and sustainable use of genetic resources for food and agriculture. This should include providing further funds for international agricultural research - a preferable option to corporate sector funding through a proposed endowment fund.

**Governments must give greater priority to programmes for the conservation and sustainable use of genetic resources and agricultural biodiversity. In part this will be achieved through the Financial Mechanism of the IU, in part by GEF and in part by new funds from the public sector.**

### **FARMERS' RIGHTS & THE RIGHT TO FOOD SOVEREIGNTY**

Farmers' Rights are under threat from a weak IU, IPRs, Trade Rules, GMOs, GURTs and yet are the *"fundamental pre-requisite to the conservation and sustainable utilisation of agricultural biodiversity"*. **CSOs call for the need for Farmers' Rights to be recognised internationally by the IU and legally protected under the auspices of UNHCHR.** The Rights to Food Sovereignty and Farmers' Rights are inseparable. Food is a basic Human

Right and the Right to Food Sovereignty includes the right of access to productive resources, including genetic resources and agricultural biodiversity.

At the August 2001 World Forum on Food Sovereignty, a preparatory CSO and Farmers' meeting for the World Food Summit: five years later, concluded:

*"Genetic resources are the result of millennia of evolution and belong to all of humanity. Therefore, there should be a prohibition on biopiracy and patents on living organisms, including the development of sterile varieties through genetic engineering processes. Seeds are the patrimony of all of humanity. The monopolisation by a number of transnational corporations of the technologies to create genetically modified organisms (GMOs) represents a grave threat to the peoples' food sovereignty. At the same time, in light of the fact that the effects of GMOs on health and the environment are unknown, we demand a ban on open experimentation, production and marketing until there is conclusive knowledge of their nature and impact, strictly applying the principle of precaution."*

Agreeing a just, equitable and comprehensive IU is one step along the way and the *World Food Summit - five years later* provides an opportunity to send clear messages about its importance to:

- the fourth Ministerial meeting of the **World Trade Organisation (WTO)** in November 2001,
- the sixth Conference of the Parties to the **Convention on Biological Diversity (CBD)** in April 2002 and
- the **World Summit on Sustainable Development (WSSD)** in Johannesburg in September 2002.

The challenge for governments is simply whether the world's agricultural biodiversity is to be nurtured to provide profit for a few or food for all. The IU, while not perfect, could provide the start of an answer and the Summit, although potentially distracted by development targets, biotechnology and food aid, could be the medium to promote this global instrument.

**Continued access to genetic resources and conservation and development of agricultural biodiversity are essential components in the fight for food sovereignty. The governments represented at the *World Food Summit - five years later* must commit themselves to action. Farmers, their organisations and the CSOs that support them will continue to do their part, but negative and perverse policies and programmes of the formal sector will constantly undermine their efforts. The time to act is long overdue - actions are needed now to stem the haemorrhage of agricultural biodiversity and ensure continued open access to genetic resources for food and agriculture.**

*Compiled by Patrick Mulvany<sup>14</sup>, ITDG, September 2001,*

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*Author's note: this paper is not definitive either in ideas or content but, as part of the CSO/NGO process of reflection on achievements and setbacks since the 1996 World Food Summit, it is meant to be a stimulus to discussion and debate and the identification of more case study material.*

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