

# Agricultural biodiversity feeds the world!

## Summary

Agricultural biodiversity is vital for sustainable food production. It is the result of the resilient, biodiverse, ecological farming systems developed by knowledgeable women and men who, at smaller scales, produce or harvest food in terrestrial, aquatic and marine ecosystems. Their dynamic selection, development and exchange of seeds and other planting material, as well as livestock and other food species - genetic resources for food and agriculture - have created the myriad agricultural biodiversity that literally feeds the world. This small-scale food provision feeds at least 70% of the world's population.

*Parties at COP10 must defend and protect the smallholder and peasant farmers, herders, fishers and other small-scale food providers who will secure future food. In so doing, they must also commit to regulate, transform or prohibit any systems, methods, processes or technologies, which might damage agricultural biodiversity and related ecosystem functions that underpin our food supplies.*

## What is at stake?

*Agricultural biodiversity, truly the stuff of life*

Healthy, productive agroecosystems are very biodiverse. Rice paddy fields, for example, are major repositories of agricultural biodiversity. A single Japanese rice ecosystem has been shown to contain 5668 different species. The biodiversity and variability, embodied in agricultural biodiversity and its related ecosystem functions, provide the resilience necessary to confront threats, such as climate change. Without such rich biodiversity, food futures are bleak. Yet, agricultural biodiversity is being lost at alarming rates. We have lost at least 75% of crop varieties and thousands of livestock breeds over the past century and, according to the 2010 Third Global Biodiversity Outlook (GBO3), their biodiversity continues to decline. Indeed, all agricultural biodiversity (including the critical support species of pollinators, predators and soil microorganisms) are under threat of irreversible and drastic erosion due mainly to the expansion of monoculture industrial production systems using: agrochemicals, and producing effluents, that pollute downstream; uniform seeds and breeds; and over-harvesting of aquatic and marine species.

## *On-farm / in situ conservation is threatened by expansion of industrial production*

Agricultural biodiversity needs human care, wisdom and knowledge to survive, develop and adapt to local ecosystems, cultures and needs. Biodiverse seeds, animal breeds and local aquatic species, and their associated traditional knowledge, have survived because they are continuously being used, enhanced and passed on to successive generations and freely exchanged within and between communities, countries and continents. In line with the CBD decisions, a few Parties (e.g. Philippines) have adopted laws to promote agricultural biodiversity through organic and sustainable agriculture. But the actual implementation of such laws is prevented by a corporate lobby that promotes its chemical inputs and genetically modified organisms (GMOs). Legislation based on the UPOV 91 convention, for example, patents and other intellectual property rights, seed regulations, non-reproducible seeds including hybrids, and Terminator or Genetic Use Restriction Technologies, further undermine agricultural biodiversity by restricting the development and use of farm-saved seed and limiting collective rights. The contribution of alternative large ex-situ genebanks containing a snapshot of earlier diversity is over-valued. Centralized databases offer little to maintain dynamic knowledge systems. They cannot replace location-specific varieties, breeds and associated knowledge, conserved on-farm or in situ, that constantly adapt to changing conditions and demands.

## *Industrial production is not sustainable*

Industrial commodity production systems have reached a tipping point of unsustainability. In contrast to biodiverse systems, they are large-scale, fossil fuel and agrochemical dependent and use a narrow range of largely uniform plant varieties, animal breeds and fish species, including GMOs. Yields are stagnating, pest-resistance is endemic, loss and contamination of water, soil and air is increasing. Trade agreements are contribute to the erosion of biodiversity by promoting these systems. Agrofuel crops, from single-crop monoculture systems dependent on subsidies and fossil fuels for production, are also fuelling loss of the diversity that underpins climate resilience (see briefing #6 on bioenergy).

Further, Parties have not implemented the CBD decision on limiting pollution, of land and water by pesticides and excess fertiliser, thus eroding soil and water organisms and causing eutrophication. This in turn leads to the disappearance of many nutrient-sensitive species on land and to the collapse of aquatic ecosystems (e.g. in the Baltic Sea).

## Proposals for COP 10 and beyond

Many decisions refer to the crucial role of small-scale farmers and others in conserving agricultural biodiversity but little has been done to implement necessary measures e.g. through strengthening the ecosystem approach in agriculture; ensuring farmers' rights through the International Seed Treaty (IT PGRA) or funding the Leipzig Global Plan of Action (GPA) on-farm conservation priority actions.

COP10 will review the CBD programme of work on agricultural biodiversity. We have the following recommendations:

### (1) Support Ecological Food Provision

At COP 10, Parties must focus on implementation, explicitly supporting the maintenance and development of small-scale, ecological food provision methods, in the framework of food sovereignty, that sustain agricultural biodiversity at all levels in situ, on-farm, in all regions. This means:

- supporting, through CBD decisions and implementation, the organisations of the small-scale food providers who maintain these systems;
- prioritising policies that promote, support and remove constraints to on-farm and in situ conservation of agricultural biodiversity through participatory decision-making processes, in order to enhance the conservation of plant and animal genetic resources, related components of biodiversity in agricultural ecosystems, and related ecosystem functions;
- protecting and supporting exemplar programmes of small-scale biodiverse food systems. While the Satoyama and GIAHS initiatives should be promoted in order to improve the conservation and sustainable use of agricultural biodiversity, due care should be taken to ensure that these do not provide hidden

subsidies to agricultural commodity producers, especially in industrialised countries;

- regulating, transforming or prohibiting any methods, processes or technologies (e.g. GURTs) that damage agricultural biodiversity and its related ecosystem functions;
- adopting the proposed strategic plan target on reducing excess nutrients (nutrient loading) and pesticides to non-detrimental levels for biodiversity, adopting suitable indicators and suggesting the ways and means to implement it.

### CBD Alliance

*The Convention on Biological Diversity Alliance (CBD Alliance) is a network of activists and representatives from nongovernmental organizations (NGOs), community based organizations (CBOs), social movements and Indigenous Peoples' organizations (IPOs) advocating for improved and informed participation in Convention on Biological Diversity (CBD) processes.*

### (2) Defend small-scale food providers access to and control over resources

Parties must defend small-scale food providers' access not only to seeds, livestock breeds and aquatic species, that are not restricted in use by IPRs or technologies, nor contaminated by GMOs, but also to territory – land, water, forests and coastal marine resources – in which they practice biodiverse food provision. They are being expelled from their territory through land grabs (for example for agrofuels) or other pressures. Several Parties are contributing to this dispossession, ignoring the rights of small-scale food providers to land and land security.

Parties must include language in the final COP decisions [currently bracketed] that safeguards "land security".

### (3) Evaluate impact of IPRs on limiting biodiversity use and development

Parties must insist that programmes of work on agricultural biodiversity include assessments of patent trends and the use of other intellectual property rights, including plant variety protection, over plant, animal, and microbial genetic resources, and propose mitigation of their impacts.

### (4) Implement the findings of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)

Approved by 58 governments, the findings of the IAASTD are highly relevant to the conservation and sustainable use of agricultural biodiversity. Parties must incorporate, and commit to implement – as a priority – the 22 findings, especially those concerning the multi-functionality of agriculture and agroecological approaches built on local knowledge, particularly women's.

### Further information

USC Canada: [www.usc-canada.org](http://www.usc-canada.org)

UK Agricultural Biodiversity Coalition:  
[www.ukabc.org/cop10.htm](http://www.ukabc.org/cop10.htm)

ETC Group: [www.etcgroup.org](http://www.etcgroup.org)

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