

THE LAW OF THE SEED

Summary of the report of

**The International Commission on the
Future of Food and Agriculture**

Hong Kong, December 2005

NOTE

The present paper is a summary of Part I of the global report of the "Law of the Seed" prepared by the International Commission on the Future of Food and Agriculture and contains an outline of the threats posed to seed diversity, food sovereignty food security and safety and farmers' freedom that are central to the current problematic policy discussions on food and agriculture under way in Europe and at the World Trade Organization's meeting at Hong Kong at the close of 2005.

Part II of the report outlines the current state of the seed in different continents of the world (Europe, Africa, Canada, USA, India, Latin America and Iraq) as well the initiatives at popular, government and intergovernmental levels that are being undertaken aimed at protecting biodiversity, food sovereignty, security and safety and farmers' freedom.

Electronic copies of the full report can be obtained by contacting the secretariat of the commission at: futureoffood_tuscany@yahoo.com

IMPORTANT UPDATE for Hong Kong discussions on draft of Ministerial declaration:

The Doha work programme's call for the review of the implementation of the TRIPS Agreement to examine, inter alia, the relationship between the TRIPS Agreement and the Convention on Biological Diversity does not appear in the present text of the draft Hong Kong ministerial declaration and cannot be omitted from the Hong Kong discussions.

It is necessary therefore, in keeping with the Doha mandated call, that the following paragraph be included into the present text of the draft Ministerial Declaration:

Para 19 - "We instruct the council for TRIPS - in pursuing its work programme included under the review of Article 27.3(b), the review of the implementation of the TRIPS Agreement under Article 71.1 and the work foreseen pursuant to paragraph 12 of this declaration - 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. In undertaking this work, the TRIPS Council shall be guided by the objectives and principles set out in Article 7 and 8 of the TRIPS Agreement and shall take fully into account the development dimension."

Note on the HONG KONG MINISTERIAL DECLARATION

The abhorrent clauses of the TRIPS agreement that create monopolies on seeds and medicines and forces countries to introduce patents on life were to be reviewed in the Doha Round. Para 19 of the Doha declaration specifically built into the work programme the review of article 27.3(b) of TRIPS, which introduces patents on life, and a review of the whole of TRIPS under article 71.1.

This mandatory review finds no mention in the Hong Kong declaration.

The Doha Round cannot be considered complete without completion of the mandatory review. Article 71.1 mandates a review every two years.

If farmers are to survive we need a change in paradigm from industrial agriculture to ecological agriculture, from free trade to fair trade, from decisions about agriculture in WTO to decisions moving to local and national levels. This is the call for food sovereignty.

The Law of the Seed

A silent shift is taking place in the state and the fate of the seed.

The future of seed embodies the future of the earth and the future of humanity.

Seed unfolds into life. Seed diversity reflects cultural diversity and embodies the continuity of biodiversity.

Seeds are the basis of our food and agriculture. They are probably the oldest and most precious heritage of humankind, developed over the past 12.000 years by generations of farmers around the world. Their diversity, integrity and availability to all farmers, breeders and researchers today and for future generations is a prerequisite for our future food security and food safety, for innovation and tradition, for sustainable development of agriculture and for the diversity of taste and civilisations.

Industrial agriculture and monocultures, the privatisation of agricultural research, knowledge and development and the introduction of genetically modified plants are threatening the conservation, equitable distribution and innovative development of seeds with irreversible losses and contamination. The control over seed stocks and traits in the hands of a few private companies creates an unprecedented concentration of power and constitutes an enormous destructive potential.

The law of the seed is to reproduce, multiply and spread.

The law of patents renders illegal the reproduction, multiplication and exchange of seeds.

Will the law that has guided farmers, biodiversity and evolution determine our future or will the law of the seed destroy biodiversity and the freedom and livelihood of farmers?

Seed: The ultimate gift

Seed is the first link in the food chain. It is the embodiment of life's continuity and renewability; of life's biological and cultural diversity. It is the storage place of culture, of history. It is the ultimate symbol of food security.

Seeds have been and are still being exchanged free of charge during most of humanities history. Communities around the world have long treasured and developed their locally most important varieties, including the knowledge about their specific properties and needs. Free exchange of seed among farmers has been the basis of maintaining biodiversity as well as food security. This exchange is based on cooperation and reciprocity as well as exchange of ideas and knowledge, of culture and heritage. Seed not only plays an important part in the rituals and rites of communities, it also represents the accumulation over centuries of people's knowledge. In today's context of biological and ecological destruction, seeds are precious gifts and conserving them is essential to conserving biodiversity, traditional knowledge, culture and sustainability.

The culture of seed saving and seed exchange which is at the basis of agriculture in much of the world today is under threat. New technologies, such as the technologies of the green revolution and biotechnologies, devalue the cultural and traditional knowledge embodied in the seed and erode the holistic knowledge of the seed which entails consideration of environmental and agronomic aspects as well as food culture, ethics, nutrition, health, aesthetics and joy developed in a specific context of social relations, history and culture. This devaluation results in the seed itself becoming extinct, as the existence of the seed is intimately tied with holistic knowledge of the seed.

The loss in seed diversity

In ecological terms the major threat to the planet's diversity is described by the rate of extinction of species. With regard to food security and diversity of options the major threat can be described by the loss of varieties within those species that form the basis of the human food chain. This diversity has seen the most dramatic decline during the past century. According to FAO estimates 75 percent of the genetic diversity of crop plants world wide was lost in the 20th century.

Major causes for this dramatic development are:

1. industrialisation of agriculture which includes standardisation of seeds and their reproduction,
2. Global integration of seed development with emphasis on best yielding high-input varieties, which form the basis of the commercially available selection of seeds and which have resulted in massive reduction of the genetic diversity of key germ plasm
3. A sharp decline of the number of farmers and farm operations in all industrial and many rural countries of the world, which causes a loss of agro-ecological knowledge and practices and goes along with the loss of knowledge of the plants' food and health properties
4. The withdrawal of public funds and facilities from research and development of seed and the global concentration of seed companies
5. The transition to hybrid seed systems in key crop species, preventing further local and regional breeding and adaptation

There is general agreement that appropriate maintenance of the treasure of seed diversity requires *in situ* conservation, i.e. the regular use of these seeds, preferably in their region of origin. However, as the FAO puts it in its State of the World plant resources report, *“(T)he major factor driving genetic erosion is that traditional farmers who develop and conserve agro-biodiversity, are generating a “public good”, without adequate incentives. They are producing global values for which they obtain no return. Without appropriate and urgent solutions to this paradox, the loss of agro-biodiversity will accelerate, and the consequences will be serious, irreversible and global.”*

Access and control and patents on plants

This loss is being hastened by the intellectual property rights (IPR) that are being universalized through the WTO's agreement on trade-related intellectual property rights (TRIPS) that allow corporations to usurp the knowledge of the seed and monopolize it by claiming it to be their private property. New intellectual property rights are being introduced through the WTO in the form of patents or breeders' rights.

Seed companies force farmers to sign “technology agreements”, which imply that corporations that have the patent can claim that a seed or plant or crop variety is their invention and exclude others from making, selling, using, or distributing the seed or crop. The ancient system of freely sharing seeds and knowledge, and saving seed is thus viewed as ‘intellectual property theft’ and is about to become a criminal act, while the destruction of such heritage and the expropriation of its remainders is hailed as technical innovation and progress. Companies are already taking farmers to court in industrialized countries for seed saving and seed exchange.

Furthermore, governments are lured into perceiving the biodiversity of their territory as a valuable asset to sell to companies, who offer to share some percents of potential future profits from derivative patents, following the concept of “benefit sharing” under the UN Convention on Biodiversity. “Bio-Piracy” has become a novel form of private genetic colonialism and only rarely can communities in Southern countries detect and counter claims of transnational companies of having invented, what is actually part of their heritage.

There are two trends in plant patents that allow monopolies over food and agriculture systems and create a threat to biodiversity, the survival of small farmers, and the food security of all people. The first trend are broad species patents such as those on cotton and soybean held by Agracetus (now owned by Monsanto). The granting of patents covering all genetically engineered varieties of a species, irrespective of the genes concerned or how they were transferred, entitles a single owner to fully control and to also restrict or deny any use of the patented trait including all plants containing the patented DNA sequence, irrespective of the mode of their acquisition and enables the control by one individual of what can grow on our farms and in our gardens.

Unlike plant breeders’ rights (PBRs), the utility patents are very broad based, allowing monopoly rights over individual genes and even over characteristics. PBRs do not entail ownership of the germplasm in the seeds, they only grant a monopoly right over the selling and marketing of a specific variety. Patents, on the other hand, allow for multiple claims that may cover not only whole plants, but plant parts and processes as well. So a company could file for protection of a few varieties of crops, their macro-parts (flowers, fruits, seeds and so on), their micro-parts (cells, genes, plasmids and the like) and whatever novel processes it develops to work these parts, all using one multiple claim. The TRIPs agreement militates against people’s right to food and health by conferring unrestricted monopoly rights to corporations in the vital sectors of health and agriculture.

In practical terms, allowing patenting in the field of agriculture will have the following alarming consequences:

1. It will encourage monopoly control of plant material by western transnational corporations making farmers dependent on corporations for the most critical input in agriculture, i.e., seed. This monopoly control is more far-reaching given the takeover of seed companies by large chemical and agribusiness corporations which control other inputs into agriculture such as fertilizers, pesticides and herbicides. Monopoly control on seed linked with corporate control over agriculture will lead to large scale disappearance of farmer’s varieties, thus threatening biodiversity conservation as well

as farmer's survival and lead to the erosion of the rich cultural diversity of individual countries.

2. Royalty payments lead to a rise in the price of seed.
3. The changed economics resulting from IPRs will lead to the displacement of small farmers, leading them to debt and destitution.
4. Large-scale uprooting of agricultural society, without equivalent absorption in new industrial opportunities, will lead to social disintegration, a rise in crime and breakdown of law and order.
5. Intellectual property protection in the area of agriculture and plant variety will undermine food security since the protected and patented varieties are not linked to food needs, but to the processing and marketing requirements of agribusiness.
6. The shift to the control of agriculture through the control of seed will also contribute to other natural resources, such as land and water, coming under the control of MNCs.
7. IPRs in the area of seeds and plants will increase the national debt of developing countries. The undermining of food security will increase food imports and hence the foreign exchange burden, thus inviting deeper conditionalities from institutions like the IMF and the World Bank.
8. The erosion of food security will create food dependency, turning food into a weapon in the hands of industrialized countries, thus leading to a return to slavery and recolonization.

UPOV Convention and Breeders Rights and Farmers Rights

Farmers breed for diversity while seed industry breeds for uniformity.

The existing international agreement that covers Plant Breeders' rights is the International Convention for the Protection of New Varieties of Plants – UPOV Convention. Revisions of the initial intergovernmental treaty (last in 1991) have constantly expanded the concept of privately held “intellectual property rights” over the seed and today include the right to charge farmers for replanting protected seed varieties.

The UPOV Convention calls for a high degree of standardization that goes against the reality of biological diversity and the socio-economic diversity of different countries and by necessity produces uniformity. The PBR legislation like UPOV is inherently incapable of protecting farmers' rights that arise from the role of the farmers as breeders who innovate and produce diverse farmers' varieties which form the basis for all other breeding systems.

While UPOV fails to recognize and therefore protect farmers' rights as positive rights, UPOV 1978 does have a farmers' exemption which gives the farmer the right to save seed of protected varieties. Similarly, the breeders' exemption allows researchers and breeders free access to a protected variety to use for breeding other varieties.

However, UPOV 1991 has removed these exemptions. Breeders and researchers will have to pay royalty to the PBR holder to use the protected variety for breeding other varieties. The farmers' exemption has been made optional. Art 15 of UPOV 1991 states:

Each contracting party may within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder restrict the breeders right in relation to any variety in order to permit farmers to use for propagating purposes on their own holdings the product of the harvest which they have obtained by planting, on their holdings, the protected variety.

It is the breeders who will decide their legitimate interests and enforce this on the state. Since the breeders in this case are multinational seed companies more powerful than most Third World governments, "reasonable limits" will be set by these corporations and not by individual governments. Breeders' authorisation will therefore be the final determinant in respect to sale and marketing of harvested material. UPOV 1991 is therefore as monopolistic as patent regimes.

GMO contamination

With the industrialisation of agriculture chemical pollution and intoxication has spread world wide and is still increasing. Agriculture today is the single most important source of persistent organic pollutants. With the advent of genetic engineering as a new technology to alter plants and animals in a way which could not occur naturally a new type of contamination is about to add to these menaces: Biological contamination.

As opposed to non-biological forms of pollution, genetically engineered crops and their transgenic traits have the ability to reproduce and multiply, to change their properties and to adapt to new environments.

The underlying principles of life, into which genetic engineering interferes in an unprecedented and unnatural way are only partially known and still poorly understood. Correspondingly the risks involved in genetic engineering can only partially be assessed. However, once released into the environment genetically modified organisms (GMO) cannot be recalled in most cases.

In addition to the natural pathways of reproduction and genetic transfer, international trade of agricultural products and seed opens fast pathways of dissemination around the globe and into the most diverse environments at unprecedented scale. For instance, nearly 50 million hectare, more than 50 percent of the global acreage dedicated to soybean cultivation, have been planted to a single trait (resistance to Monsanto's "pesticide "Roundup") within a period of only five years.

Such "globalisation" of seeds adds new risks, should they confer dangerous or undesired properties. Their integration into cultivated and wild populations may take generations, but could as well occur within a few years. This not only affects the already narrow genetic diversity of cultivated plants and their elite varieties, but the entire genetic diversity of our food crops and their wild relatives, especially in their centres of origin and diversity, upon which our food security and our ability to develop new varieties depend.

At a workshop held by the International Plant Genetic Resources Institute in Rome (30 August - 1 September 2004 in Rome, Italy), a representative of the trans-national GMO

companies programmatically announced: *“The adventitious and technically unavoidable presence of GM material in non-GM material is a fact of life in living genetic resources. The frequency of occurrence will increase drastically in view of the revolutionary development of the use of GM technology.”*⁴ For GMO-companies seed contamination is not only “a fact of life” but also a Trojan horse to force GMO also into countries rejecting their use. Labelling regulations as introduced in many countries upon the request of consumers could become unenforceable and non-GM agriculture could soon be a thing of the past, if GMO in non-GM seeds would not be strictly identified and excluded. Unless the companies introducing GMO on the market are held responsible and liable, farmers will not be able to avoid GMO in their seed. The costs for GMO testing are prohibitive and the means of control are beyond their technical capacity.

Once GMOs are introduced into the seed pool of a region or country, free exchange of seed and farm saving of seed would be severely repressed by the threat of GMO contamination. It might soon be only the large international seed companies, who would be able to guarantee that their certified seeds are free of GMOs.

Keeping non-GMO seeds free of GM events is a new and massive challenge for all farmers and citizens, who do not want to depend on the ability of these companies to detect, control and predict the impacts of their new varieties. GMO free seeds are the basis of local and regional food and seed sovereignty. Free access to non-GM seeds and the ability to exclude the growing of GMOs in their vicinity is a basic human right, which must be defended globally.

Of note in this regard is the most recent decision by Austria to hold a pan-European debate on genetically-modified farming on 4-5 April following the strong Swiss support for a five-year ban on gene technology in a referendum held on 27 November. Swiss citizens supported a five-year moratorium on the farming of genetically modified plants and animals, paving the way for introduction of the strictest restrictions yet in Europe.

ANNEX : Regional Bill N. 369 – Regional Government of Tuscany

“Protection and enhancement of local breeds and varieties of interest to farming, animal husbandry and forestry”

International Commission on the Future of Food and Agriculture

A joint initiative of

Claudio Martini, *President of the Region of Tuscany, Italy*
and

Vandana Shiva, *Executive Director, Research Foundation for
Technology, Science And Ecology/Navdanya, India*

Commission composition:

Vandana Shiva, Chair

Miguel Altieri, *Professor, Department of Environmental Science Policy and Management,
University of California at Berkeley*

Debi Barker, *Co-Director and Chair of the Agricultural Committee of the
International Forum on Globalization, (IFG)*

Aleksander Baranoff, *President, ALL, National Association of Genetic Safety, Moscow*

Wendell Berry, *conservationist, farmer, author and poet*

Marcello Buiatti, *Consultant on GMO issues to Tuscany, Professor University of Florence*

Peter Einarsson, *Swedish Ecological Farmers Association, IFOAM EU Group*

Elena Gagliasso, *Scientific Coordinator for the Lega Ambiente, Professor, University of Rome*

Bernward Geier, *Director, International Federation of Organic Agriculture Movements
(IFOAM)*

Edward Goldsmith, *Author, Founder and Editor of the Ecologist*

Benny Haerlin, *Foundation of Future Farming, Germany, Former International Coordinator of
GMO campaign for Greenpeace*

Colin Hines, *Author of Localisation: A Global Manifesto; Fellow, International Forum on
Globalization*

Vicki Hird, *Policy Director, Sustain: The alliance for better food and farming*

Andrew Kimbrell, *President, International Center for Technology Assessment*

Tim Lang, *Professor of Food Policy, Institute of Health Science, City University, London*

Frances Moore Lappe, *Author, Founder, Small Planet Institute*

Caroline Lucas, *Member of the European Parliament, Green Party UK*

Jerry Mander, *President of the Board of the International Forum on Globalization*

Samuel K. Muhunyu, *Coordinator, NECOFA (Network for Ecofarming for Africa)*

Helena Norberg-Hodge, *International Society for Ecology and Culture*

Carlo Petrini, *Slow Food, Italy*

Assétou Founé Samake, *Biologist, Geneticist, Professor, University of Mali*

Sandra Sumane, *Sociologist at the University of Latvia, Riga*

Percy Schmeiser, *Farmer and GMO activist, Canada*

Associates:

Kristen Corselius, *Institute for Agriculture & Trade Policy, USA*, **Raj Patel**, *Food First, USA*

For information contact:

Co-ordinator: Caroline Lockhart cell. (39) 335 710 7624

futureoffood_tuscany@yahoo.com

ARSIA, Regione Toscana, Secretariat: Tel. (39) 055 2755213