

Traditional Knowledge and Terminator Technology

January 2006

Indigenous peoples, local communities and smallholder peasant farmers, through traditional knowledge, innovations, and practices, have developed and nurtured plant species for agriculture and medicine over millennia, contributing to both biological and cultural diversity. Traditional knowledge is constantly evolving to support lives and livelihoods. It supports food security and food sovereignty for peoples and communities across the world and it is the very foundation of our food supply.

Indigenous peoples and local communities are the holders of traditional knowledge about the use of biodiversity for food security and community health. The development and adaptation of plants and crops to different ecological conditions, such as soils, rainfall, temperature, altitude, and to meet specific community nutritional, medicinal, cultural, and spiritual needs, is the product of traditional knowledge. This knowledge mobilizes sophisticated and complex observations and understandings of, and experience with, the properties of living organisms and their interactions with all elements of local ecosystems. Indigenous peoples, local communities and peasant farmers practice and retain traditional knowledge through dynamic practices of seed saving and exchange that allow for continued innovation in plant breeding.

What is Terminator? Terminator technology refers to plants that have been genetically modified to render sterile seeds at harvest – it is also called Genetic Use Restriction Technology or GURTS. Terminator technology was developed by the multinational seed/agrochemical industry and the United States government to prevent farmers from saving and re-planting harvested seed. Terminator has not yet been commercialized or field-tested but tests are currently being conducted in greenhouses in the United States.

The corporate and human hubris that is seen in the genetic modification of plants, animals and other life forms is taken to the extreme with the concept of Terminator technology which aims to overcome the fertility of the seed and create “suicide seeds” that become sterile after a crop is harvested. This technology could have many adverse impacts on the practice and retention of traditional knowledge that, in turn, supports food sovereignty, self-determination, cultural and spiritual practices, and the protection of biodiversity.

“The introduction of Terminator...is an assault on indigenous knowledge systems and indigenous farmers’ faith in their collective intellectual heritage.”

– Indigenous Peoples of Cusco, Peru on the Potential Impacts of Terminator, Submission to UN Convention on Biological Diversity, Working Group on Article 8(j) September 27, 2005. Posted at www.banterminator.org/p/216

Impacts of Terminator Technology

Terminator seeds could be unintentionally introduced into communities through seed markets or humanitarian food aid. If farmers unknowingly plant second generation Terminator seed, it would not germinate. Terminator genes could also escape through pollen flow in the first generation, passing sterility genes to related crops and plants nearby. This contamination would mean that farmers could experience unexpected yield losses and communities could see a decrease in the availability of wild, uncultivated food and medicinal plants.

The voluntary or involuntary introduction of Terminator seeds could have many disruptive impacts on the relationships between agriculture and culture, biodiversity and traditional knowledge, food security and self-determination.

Loss of Traditional Varieties: Peasant farmers who find their seed contaminated with Terminator could lose trust in their own seed stock. If contamination is persistent and seeds are sterile, peasants could lose their traditional and local varieties or be forced to abandon their own seed that is adapted to local conditions and community needs.

Traditional Knowledge: Loss of traditional varieties and decline in seed breeding would threaten the practice and retention of traditional and local knowledge. Many traditional knowledge systems are built around seed saving and seed exchange which would be made biologically impossible by Terminator. The emergence of Terminator seeds by voluntary or involuntary means in rural communities could result in the “termination” of the collective expertise and imagination of plant breeders that are driven by traditional networks of crop and seed exchange and depend on a continuous cycles of seed germination. Disrupting the interrelation between traditional knowledge-generators and biodiversity may lead to the disintegration of the very processes by which the knowledge evolved and is kept alive. Terminator seeds threaten to paralyze the slow but sure adaptive experiences of indigenous peoples, local communities and smallholder farmers around the world.

Our traditional knowledge is much more than simply the knowledge of certain plants or animals. It is intimately linked to the spiritual world, to ecosystems, and to the biological diversity within our lands and territories and it transcends national boundaries.

– Corobici Declaration, Expert Meeting on Traditional Forest-Related Knowledge, Costa Rica, 6-7 December 2004. www.tebtebba.org

Indigenous knowledge: Indigenous knowledge is the traditional knowledge of Indigenous peoples and it is the foundation of Indigenous cultures. *“This knowledge permeates every aspect of our lives and is expressed in both tangible and intangible forms. Indigenous knowledge reflects the wisdom of our Ancestors, and we have a responsibility to protect and perpetuate this knowledge for the benefit of our future generations.”* (Collective Statement of Indigenous Peoples on the Protection of Indigenous Knowledge, Third Session, UN Permanent Forum on Indigenous Issues New York, 10-21 May 2004. www.ipcb.org)

Food Sovereignty: Indigenous peoples, local communities and smallholder farmers depend on sharing and exchanging saved seeds for their livelihoods. Peoples save seed in order to adapt seed to local conditions, and for specific nutritional and medicinal needs. Terminator seeds would concretely impact food security and food sovereignty because seeds would no longer be available for collective breeding and sowing. Loss of local and traditional seed varieties would increase food insecurity and

impact the general health of Indigenous, tribal and rural peoples. Additionally, contamination or the unintentional use of Terminator seeds could result in yield losses for farmers and could immediately increase food insecurity and undermine the economy and self-reliance of communities.

Self-Determination: By virtue of their human right of self-determination, Indigenous peoples have a right to food sovereignty and food security. Because of the threats posed by Terminator, any field-testing or commercial use or other release, is a fundamental violation of the human rights of Indigenous peoples, a breach of the right of self-determination.

"The issue of traditional knowledge must be regarded in a holistic manner, inseparable from our rights as peoples."

– Corobici Declaration, Expert Meeting on Traditional Forest-Related Knowledge, Costa Rica, 6-7 December 2004. www.tebtebba.org

Cultural and Spiritual Life: The productivity and fertility of seeds is the basis of cultural life-ways of Indigenous peoples and local communities. The goal of Terminator to make seeds sterile runs directly counter to the spiritual and cultural beliefs and practices of many peoples and communities who honour the fertility of the land and of all living beings. Many land-based peoples and communities worship the fertility of Mother Earth that sustains them. Terminator would dishonor these spiritual systems and could disrupt them in concrete ways.

Privatization of Seed: Terminator technology is the ultimate form of patent or intellectual monopoly control that strives to claim private ownership over life forms or "genetic resources." The concept of protecting intellectual property runs contrary to the traditional ways in which the qualities of life forms are bred and nurtured in many parts of the world.

"...indigenous peoples are the guardians of their customary knowledge and have the right to protect and control dissemination of that knowledge."

– The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, Whakatane, 12-18 June 1993 Aotearoa, New Zealand, <http://aotearoa.wellington.net.nz/imp/mata.htm>

Loss of Biodiversity: Biodiversity forms the basis of global food security and food sovereignty for peoples and communities across the world. Biodiversity provides medicine, fuel, fodder and food, both through cultivated and uncultivated species. This biodiversity supports, and is preserved by, the application of traditional knowledge which involves seed saving. Terminator seeds could mean the end of diverse local food crops and wild relatives that are valuable for their unique medicinal or agronomic qualities. Without the knowledge of traditional communities associated with these crops, many possibilities for meeting future needs could be lost. Current and future global food security relies on this biodiversity, particularly in centres of origin.

Role of Women in Society and Culture: Women are the seed keepers and plant breeders in many cultures and communities as well as the keepers of traditional knowledge and cultural practices. If seed saving is interrupted or eliminated through the introduction of Terminator seeds, the role of women in traditional knowledge systems and in the cultural and social life of communities could change.

Indigenous, Peasant and Local Communities Voice Strong Protest Against Terminator Technology

Indigenous peoples, local communities, and peasants and small-scale farmers are often shut-out or sidelined in debates over the introduction of new technologies. This is true in relation to the corporate Terminator technology. However, through the United Nations Convention on Biological Diversity, the *Ad Hoc Technical Expert Group on the potential impacts of genetic use restriction technologies on smallholder farmers, indigenous and local communities* (AHTEG report) included representatives of Indigenous peoples organizations, local communities and small-scale farmers **(Terminator is also called Genetic Use Restriction Technology or GURTS at the United Nations)**. The AHTEG found that the potential negative affects of GURTS technologies far outweigh the positive impacts and therefore requires the ongoing implementation of the precautionary principle in order to insure that the rights, safety, and food security of Indigenous and local communities are not threatened.

The report recommends that, "Parties and other Governments consider the development of regulatory frameworks not to approve GURTs for field-testing and commercial use."

The AHTEG report found that Terminator may have negative impacts on Indigenous peoples, local communities and farmers including (among others):

- 1) May reduce and limit traditional seed exchanged practices;
- 2) May reduce the knowledge and local innovation capacity of local and indigenous communities for crop improvement, threatening local food security;
- 3) Could precipitate the loss of local knowledge, reduce or negatively affect local agrobiodiversity, and result in a deterioration of indigenous knowledge systems;
- 4) Could displace traditional farming systems and the social, cultural and spiritual dimensions associated with them;
- 5) May cause seed dependency or crop failure through the potential misuse of unintentional use of Terminator seeds;
- 6) Could negatively and irreversibly create changes in the environment caused by geneflow or other problems with environmental containment; and
- 7) The use of Terminator as a form of biological intellectual property protection could facilitate the appropriation and enclosure of some elements of indigenous knowledge and genetic resources in a permanent and irreversible manner.

Action Required:

Action by your organization or community is needed to stop Terminator seeds. Upcoming opportunities to voice your views include:

The Ad Hoc Open-ended **Working Group on Article 8(j)** of the CBD will consider the social, economic, and cultural impacts of Terminator on Indigenous peoples, local communities and smallholder farmers at its 4th meeting on **January 23-27, 2006 in Granada, Spain**. This meeting will make recommendations on Terminator to the meeting of 8th Conference of the Parties (COP8) to the Convention on Biological Diversity **March 21-30 in Curitiba, Paraná, Brazil**.

Many groups representing Indigenous peoples, local communities and smallholder farmers are calling on the Working Group on Article 8(j) to advise COP8 that Terminator is a dangerous technology that threatens biodiversity, Indigenous knowledge systems, smallholder farmers and global food security. Groups are calling on the Working Group to approve the AHTEG Report's recommendation that governments develop national regulations to **prohibit field trials and commercialization of Terminator.**

Contribute your views in the following ways:

- **Participate** in the United Nations meetings by attending if possible or by contributing your views to the Ban Terminator Campaign.
- **Pass A Resolution Against Terminator:** In August 2005 the International Indian Treaty Council passed a resolution against Terminator. If you are a part of a group or community and would like a copy of this resolution to use as a model for your own resolution please check www.banterminator.org or www.treatycouncil.org or contact Ban Terminator.
- **Endorse the Ban Terminator Campaign** to show your opposition to Terminator technology
- See www.banterminator.org or contact us for more suggestions on taking action or to tell us about your actions, ideas and concerns.

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**Ban Terminator ~ Terminar Terminator ~ Banir Terminator ~
Interdire Terminator ~ Terminator verbieten**

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