

## Indigenous Peoples of Cusco, Peru on the Potential Impacts of Terminator

Submission to the Convention on Biological Diversity on "Advice on the report of the Ad Hoc Technical Expert Group on Genetic Use Restriction Technologies"

September 27<sup>th</sup>, 2005



Indigenous representatives from the communities of Cochamoco, Chuachua, Charcapata, Quico, Pinchimuro, Pucarumi, Pampacancha, Mahuayani, Colpac'ucho, Chalmachimpana, Colca -Yanatile, Hatún Qeros, Choquecancha, Lares, Cachin, Cochayoc, Rosaspata, Chawaytire, Sacaca, Pampallaqta, Amaru, Paru Paru, Cuyo Grande, Upis, Coñamuro, and Tinke in the districts of Písaq, Paucartambo, Ausangate, Tinke, Lares, and Yanatile in the department of Cuzco, Peru attending the workshop on Terminator in Choquecancha, Lares, Peru.

Cusco 27 September 2005

Mr. Hamdallah Zedan  
Executive Secretary of the Convention on Biological Diversity  
United Nations Environment Programme  
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Montreal, Quebec, Canada, H2Y 1N9

Ref: SCBD/STTM/DCO/va/48601 "Advice on the Report of the Ad Hoc Technical Expert Group on Genetic Use Restriction Technologies".

Dear Mr Zedan,

We are writing to you in reference to the CBD Secretariat notification SCBD/STTM/DCO/va/48601 of 26 April 2005 titled "Advice on the Report of the Ad Hoc Technical Expert Group on Genetic Use Restriction Technologies". In response to your request to present new comments on the Potential Impacts of Genetic Use Restriction Technologies (GURTs) on Smallholder Farmers, Indigenous and Local Communities and Farmers' Rights we present this submission to you and kindly request to be referred to the next meeting of the Working Group on Article 8(j) and Related Provisions to take place in Granada, Spain in February 2005 to ensure that our views on this matter contribute to the widest and most up-to-date information to be considered at that meeting and assist the consideration of issues under the mandate of the Working Group on Article 8(j) and Related Provisions.

We, indigenous peoples from the Andean farming communities of Cochamoco, Chuachua, Charcapata, Quico, Pinchimuro, Pucarumi, Pampacancha, Mahuayani, Colpac'ucho, Chalmachimpana, Colca -Yanatile, Hatún Qeros, Choquecancha, Lares, Cachin, Cochayoc, Rosaspata, Chawaytire, Sacaca, Pampallaqta, Amaru, Paru Paru, Cuyo Grande, Upis, Coñamuro, and Tinke in the districts of Písaq, Paucartambo, Ausangate, Tinke, Lares, and Yanatile in the department of Cuzco, Peru, concerned about the potential impacts of Genetic Use Restriction Technology (GURTS) on indigenous biocultural heritage, food systems, and livelihoods, convened in a meeting that brought together seventy-one indigenous leaders and community members from six districts and twenty-six communities from six districts in the department of Cusco, Peru, on the 26th and 27th of September 2005 in Choquecancha in the district of Lares, Peru to analyze and debate indigenous peoples issues and concerns with regards to Terminator, sign this Declaration of Indigenous Peoples of Cuzco, Peru on the Potential Impacts of Terminator as submission to the Convention on Biological Diversity's notification to indigenous organizations "Advice on the Report of the Ad Hoc Technical Expert Group on Genetic Use Restriction Technologies" (Ref: SCBD/STTM/DCO/va/48601).

As traditional indigenous farmers we are united to defend our livelihoods which are dependant on seeds obtained from the harvest as a principal source of seed to be used in subsequent agricultural cycles. This tradition of seed conservation underpins Andean and Amazonian biodiversity and livelihood strategies, the traditional knowledge and innovation systems customarily administered by indigenous women who have made such biodiversity and livelihood strategies possible and indigenous cultural and spiritual

values that honor fertility and continuity of life.

Having analyzed and discussed our issues and concerns about Terminator, we would like to bring to your attention the following potential impacts of Terminator on our human rights, livelihoods, and cultures as a result of its voluntary or involuntary introduction into traditional indigenous agricultural systems:

- **Loss of Indigenous Biodiversity:** Andean and Amazonian biodiversity, both domesticated and wild, is put at risk for contamination through gene flow from Terminator crops, and, as Terminator seeds would not be 100% sterile in the second generation, this risk is great. Indigenous farmers who save the seeds of contaminated varieties for replanting may find that a percentage of their seeds do not germinate, potentially translating into significant yield losses. Such contamination could cause farmers to lose trust in their own seed stock, turn their backs on traditional varieties, and increasingly depend on the purchase of Terminator varieties for harvest security so that they can guarantee at least one germination period. Similarly, the introduction of foreign genes into uncultivated varieties through gene flow from Terminator could irreversibly alter the wild varieties on which indigenous peoples have traditionally depended for important medicines and food. As a center of origin for potatoes, Peru is home to over 2,000 varieties of potatoes and is considered one of twelve megadiverse countries where 70% of the world's biodiversity resides. Biodiversity forms the basis of global food security and sovereignty for peoples and communities around the world. The spread of Terminator to indigenous agricultural systems in Peru could force indigenous farmers to abandon their traditional role as stewards of biodiversity and in doing so threaten current and future global food security. Considering that Terminator patents on potatoes have recently been claimed (Syrgenta, US Patent 6,700,039, March, 2004), the introduction of GURTS to Peru presents a high risk for irreparable contamination of this center of origin of potato.
  
- **Erosion of Indigenous Knowledge and Innovation Systems:** Traditional knowledge and innovation systems of Andean and Amazonian indigenous peoples are built around seed saving and seed exchange between plant breeders, particularly as evidenced by the extensive crop and seed exchanges at the popular weekly barter markets in the communities of Qachin, Choquecancha, Lares and Wakawasi in the district of Lares. Terminator technology would have a concrete impact on these knowledge systems by jeopardizing the availability of fertile seeds for collective exchange and breeding. As a consequence of Terminator, the very processes of adaptive interaction between man and the climatically complex Andean and Amazonian ecosystems which has allowed for the evolution and current vitality of a highly specialized body of indigenous knowledge would be paralyzed. Indigenous peoples hold as their responsibility the perpetuation of the knowledge of their ancestors for the benefit of their descendents. Terminator technology attacks present and future Quechua

generations by jeopardizing the perseverance of this knowledge. No ancestral knowledge exists in indigenous communities concerning the use of transgenic crop varieties which means that indigenous farmers would be at a loss for how to effectively cultivate such varieties. Furthermore, since indigenous communities trust the fertile seeds and associated knowledge which have proven effective and reliable for their ancestors, the introduction of Terminator, which is difficult to distinguish from actually fertile seeds, is an assault on indigenous knowledge systems and indigenous farmers' faith in their collective intellectual heritage.

- **Loss of Food Sovereignty:** To achieve food security, indigenous peoples in Cuzco depend on the exchange of diverse foods between diverse agroecological zones that are found at different altitudes along the eastern slopes of the Andes which connect the Peruvian Sierra to the Peruvian Amazon. The barter markets in the Lares Valley, for example, are supplied by potatoes and other carbohydrate-rich Andean tubers from the high-altitude agroecological zone, called the *puna*, while corn and other sources of essential amino acids, like quinoa, arrive from the mid-altitude agroecological zone called the *keshua*. Finally, indigenous traders carry vitamin-rich fruits and spiritually significant coca leaves to the barter markets from the low-altitude jungle agroecological zone called the *yunga*. Terminator seeds would have a concrete impact on these barter markets and food sovereignty because fertile seeds would become decreasingly available for the collective breeding and sowing which makes the food diversity found at these barter markets possible. Furthermore, though these barter markets are traditionally important loci for the exchange of fertile seeds, the introduction of Terminator would cause indigenous traders to distrust these seed exchange systems due to the risk of receiving infertile seeds from Terminator crops. The erosion of the barter markets, seed exchange practices, and a diverse food supply would increase food insecurity and impact the general health of Andean and Amazonian indigenous peoples. Additionally, the genetic contamination or unintentional use of Terminator seeds could result in immediate yield losses and food insecurity for individual indigenous farmers.
- **Erosion of Human Rights of Indigenous Peoples:** The human right of self-determination implicates the right of indigenous peoples to food sovereignty and food security. Terminator would have a concrete impact on the right of indigenous peoples to self-determination by eroding biodiverse systems and associated traditional knowledge systems which provide for food sovereignty and food security in indigenous society.
- **Erosion of Local Economy:** Both unable to and often uninterested in producing for the formal market where the value of their crops is very low, indigenous peoples have developed alternative systems of administration, production, distribution and consumption of goods and services that are autonomous from the formal market. These Andean and Amazonian economies are based on mutual care between indigenous communities and guided by ancestral principles of reciprocity and solidarity which govern the

exchange of crops, seeds and knowledge. In the case of Lares Valley, studies have shown that the flow of goods in the barter markets is significantly greater than that found in urban (non-indigenous) markets. In fact, the extent of the exchange of nutritious foods and medicinal plants among Lares Valley populations is so vast that these barter practices are, in effect, subsidizing the healthcare system provided by the state. Terminator seeds would have a concrete impact on this economy by paralyzing traditional seed exchange systems which depend on continuous cycles of seed germination thereby eroding the biodiversity, traditional knowledge, and associated local employment that underpin the local economy. The resulting dependency on the purchase of Terminator seeds to guarantee harvest security would contribute to the further disintegration of the local economy and consummate the extension of the formal, multinational economy into indigenous communities in the form of the Terminator seed market. Since indigenous farmers lack the financial resources to prevail in this economy, migration of indigenous peoples to urban centers in hopes of seeking alternative livelihood strategies would increase, thereby aggravating urban and rural poverty.

- **Marginalization of Women:** In indigenous Andean and Amazonian society, women are traditionally responsible for seed administration which includes seed selection, storage, sowing, and refinement across agricultural cycles as well as the transmission of seed knowledge to their children. In short, it is the women who are the traditional breeders of new plant varieties, and it is the women who are largely responsible for the tremendous agrobiodiversity that exists today in Peru. Terminator seeds would have a concrete impact on the role of women in indigenous society by interrupting or altogether eliminating the practice of seed saving, rendering the traditional seed knowledge of indigenous women inoperative and worthless. Without the traditional respect conceded to indigenous women for their seed expertise their social standing would plummet, and they would suffer immediate marginalization in indigenous society. The traditional roles and responsibilities of Andean and Amazonian indigenous women would inevitably be forced to change.
- **Disruption of Indigenous Cultural and Spiritual Values:** According to the worldview of Andean and Amazonian indigenous peoples, all things in nature including humans, animals, plants, soils, waters, winds, and valleys are intimately interconnected and form a unified whole of cultural and spiritual significance called the *Pachamama* (Mother Earth). For indigenous peoples, demonstrating respect for the *Pachamama*, for example, through offerings at the beginning of the agricultural cycle in August, is fundamental for ensuring high agricultural production and fertility for the year to come. Accordingly, concepts such as fertility and continuity of life are central to indigenous belief systems. Terminator seeds would concretely have an impact on indigenous cultural and spiritual values and way of life by injecting the experience of seed infertility and barrenness into a cultural context where such phenomena are unprecedented and inexplicable. If the *Pachamama* previously explained a process by which life continuously and

reliably replenishes itself, the introduction of sterile offspring of Terminator plants into indigenous society would precipitate a reconceptualization by indigenous peoples of the *Pachamama* and the workings of nature. A realization of the existence of sterile seeds in the natural order would cast a dark cloud over indigenous society which traditionally hopes and prays for fertility and continuity of life. In addition, the loss of traditional varieties resulting from a new dependence on Terminator technology could mean the disappearance of those varieties which have specific ceremonial and ritual significance. During the Quechua marriage ceremony, for example, the *bole* and *suytu* varieties of potato symbolize woman and man, respectively, and are important for bringing the bride and groom together in happy union. Specific varieties are even used in ancestral rituals not only to evaluate the current well being of the *Pachamama*, but also as means by which to predict the future. Terminator technology puts the biodiversity which sustains a myriad of indigenous customs such as these ones at risk.

- **Loss of access to seeds and disappearance of indigenous agriculture:** For centuries indigenous peoples in the Andes and the Amazon have depended on conserving seeds from the harvest for use in subsequent agricultural cycles and for diffusion among social networks of exchange determined primarily by kinship bonds. Therefore, for indigenous peoples the ownership of seeds is fundamentally collective, an arrangement which harnesses the creative potential of group (as opposed to individual) efforts to breed plant varieties and adapt to complex Andean and Amazonian climactic conditions. Terminator technology is the ultimate form of intellectual property protection which seeks to claim private ownership over forms of life. This approach to seed ownership—private as opposed to collective—not only clashes strikingly with an indigenous worldview, but threatens to supplant traditional seed ownership arrangements. Terminator seeds would have a concrete impact on indigenous farmers’ access to seeds by creating a dependency on the purchase of privately-owned Terminator seeds once indigenous farmers lose faith in their own seed stock. Since indigenous farmers lack the financial resources to sustain such a dependency, their access to seeds would be limited and they would be forced to seek alternative livelihood strategies. Migration to urban centers would increase while indigenous agriculture would diminish.

**Considering the impacts indicated above we express publicly our most strong rejection to any type of development, commercialization, and/or field testing of Terminator technology.**

In response to the request from the CBD Secretariat for “new comments” on GURTS so that it has “the widest and most up-to-date information” for consideration,

We respectfully propose:

- That the Working Group on Article 8(j) of the CBD inform the 8<sup>th</sup> Conference of the Parties of the CBD (COP8) in Brazil (March 2006) of the dangers of GURTS to biodiversity, traditional knowledge systems, and local and global

food security as well as of the numerous potential impacts of Terminator on indigenous peoples if allowed to enter traditional indigenous agricultural systems.

- o That the Parties to the COP8 thoroughly review and consider the conclusions of the “Ad Hoc Technical Expert Group report on the potential impacts of genetic use restriction technologies on smallholder farmers, indigenous and local communities” (AHTEG report)
- o That the Parties to the COP8 strengthen the recommendation of paragraph 23 of decision V/5, that no GURTS should be approved for field testing or commercial use. We urge Parties to further strengthen the current moratorium on the Terminator.
- o That the Parties to the COP8 secure the full and effective participation of indigenous peoples in all future processes overseen by the CDB concerning GURTS.

Finally, we reserve the right to carry out campaigns and actions that impede the reversal of the international *de facto* moratorium on Terminator technology and the execution of corresponding international and national legal actions that threaten the interests of Peru and its indigenous peoples.

Sincerely,

