Chile

Conservation of Cultivated Biodiversity in Chile

(1) **Who is saving the diversity of cultivated plants and/or fighting for peasant rights of saving seeds in your country? Who is involved in GMO-free seed production? Are there new groups or networks that are setting up?**

There are a number of important and unrecognized initiatives in Chile for the protection and use of traditional crops and the fighting for peasant rights. They are carried by at least 9 rural development organizations in 6 regions throughout the country. They work organizing seed exchanges between farmers to save and multiply old seeds, in the introduction of traditional varieties in the market, the use of old crops in modern gastronomy, in public awareness raising of biopiracy, intellectual property rights and their impact to farmers.

In the south, the mapuche people call the seed exchanges “Trafkintu” and the seed custodians are mostly women that have kept the tradition from their mothers to keep and multiply old varieties. Seed exchanges are a very effective and non-expensive method of conservation of traditional seeds.

Organic farmers from the Maule Region in the south of Chile are now producing organic seeds of medicinal herbs, asparagus, melon, beans, colinabos, onions, tomato and courgete for export. This is the only initiative of GM free seed production in Chile.

(2) Please give some examples for using cultivated biodiversity. How do you see the importance of peasant, local or traditional varieties for agriculture and vegetable gardening?

The crops that still use traditional varieties in Chile are garlic, tomato, bromos, chickpeas, chicharos, pumpkin, sweet potato, cumin, sweet cucumber, potatoes, corn among others.

Old varieties have high variability, which means their genetic code allows them to adapt to local and changing conditions. This assures food security. For example, Andean peasants sow different varieties of potatoes that will assure them they will always harvest in spite of harsh yearly conditions. If one variety fails the others resist.

Old varieties are also essential to keep modern high yielding varieties. Through cross breeding, they give them characteristics that make modern varieties resistant to new conditions (new pests, drought, poor soils, temperature changes).

(3) Which are the main (legal) obstacles that constrain you? How can you avoid them?

The main obstacles that constrain the work of conservation of cultivated biodiversity have to do with the lack of laws that will protect these resources from genetic contamination. There are as well no biodiversity laws to protect genetic resources, traditional knowledge or regulate access to these resources. There is as well a lack of policies and financial resources for the conservation of cultivated biodiversity in public ex situ collections for the in situ conservation activities, many of which is done on a voluntary basis. There are also no laws to protect old varieties from biopiracy and appropriation through intellectual property rights.

The way to avoid these constrains is through awareness raising activities to give value to these resources, incentive farmers to save their old seeds, promote the use of these traditional crops by consumers.

(4) Which are the public gene banks in your country? What is the cooperation with them like? Do the gene banks have public access? How do they assure GMO-free quality?

The public gene banks are administered by the Institute of Agriculture Research (Inia) which keeps the majority of the accessions (81%). Other banks are owned by private institutions such as universities, forest companies, and seed companies. These banks preserve a total of 67.313 accessions (samples) of different crops, most of which are seeds (82%), but also tissues, DNA and pollen in controlled conditions. The crops preserved are mostly cereals (50%), leguminous plants (14%), vegetables (7%), fodder plants (6%). Only 15% are wild species and 5% are local traditional varieties.

The crop species more widely represented are wheat, maize, barley, beans, lentils, chikpea, pea, broad bean, lupine, bromo, atriplex, tomato, paprika, onion and vines (Salazar et al, 2006).

However, there is a lack of public information and lack of distribution of the crops preserved in seed banks to the farmers for food security. Inia, however, benefit farmers through development of new crop varieties that are distributed to them.

There is little cooperation between in situ and ex situ efforts, although some Inia officials are interested in working with the farmers and exchange materials. However, in my opinion, there are no good prospects for cooperation.

Inia has signed agreements for access to the collections with little benefit to the country and the institution does not have an access policy that may prevent IPRs over the varieties they preserve. Furthermore, Inia works in the research and creation of transgenic varieties with the objective of their introduction in Chile (potatoes, vines, melon, apple, peach, wheat). This endangers traditional varieties and centers of origin, and means that genes from these varieties may be used to make GMOs. Inia has a pro GMO stand and does not have a policy to assure seeds free of GMOs and there is no national policy in this respect. Hence there is little incentive for farmers to cooperate with this system.

There have been at least two known events of contamination of conventional seeds with GMOs in Chile. One event occurred in 2000, when conventional soybean seeds grown in Chile and exported to USA, were found contaminated with Monsanto's Roundup Ready soybean. North Dakota State University's Foundation Seedstocks Program was contaminated with these seeds. Also, Greenpeace Chile found conventional maize seeds for sale in Chile, contaminated with transgenic events NK603 and MON 810 in 2005.

(5) **What are the perspectives of public gene banks for the future in your country?**

The most critical aspect of ex situ conservation in public seed banks in Chile is the lack of political and financial support for the ex situ national system. The government does not assign priority and enough resources to the seed banks and the system can only maintain but not expand the collections. Moreover, the public ex situ bank system is underutilized, as it could preserve all the native flora and all the crop varieties present in Chile, especially traditional and Andean crops that are in special need of protection. There is also a lack of public information about the importance of the seed banks and no efforts to share these seeds with the farmers for food security. The ex situ system benefit farmers through the development of new conventional crop varieties and in the preservation of quinoa varieties given by the farmers to Inia through a special agreement.

Given the current situation, there does not seem to be good perspectives for the conservation of traditional crops in the gene bank system and for cooperation with farmers to preserve their traditional varieties. Inia and the government need to change their priorities and move out of transgenic development towards increasing their effort in saving and valuing the countries own genetic richness, distribute it to farmers and promote its use for the benefit of food security.

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