

2 Site description for Guaraciaba, Brazil

Adriano Canci^a & Clistenes Guadagnin^b

^a Instituto de Agrobiodiversidade, Guaraciaba, Santa Catarina (SC)

^b Santa Catarina State Enterprise for Agricultural Research and Rural Extension (EPAGRI), Guaraciaba, SC

2.1 Context

The site is located in a semi-deciduous forest region which has been largely transformed into an agricultural landscape. Forest cover was initially removed by European timber industries, leading to significant losses of native species. Landraces of important food crops such as maize and beans were used in agricultural practices on the cleared fields. The advent of the green revolution replaced many of these local landraces with high yielding introduced varieties, accompanied by fertilizer and pesticide dependency. This dependency has subsequently driven up the costs of production and consequently, in the 1990s, food sovereignty was at stake.

The communities of Guaraciaba are said to be well advanced in the CBM process. They have reached a high level of awareness on CBM practices and understand their local diversity, displaying concern for genetic losses and the revival of the use of agrobiodiversity.

2.2 Institutional and project setting

The lead investigating institution of the Global CBM study at this site is the Federal University of Santa Catarina (UFSC). The Environmental recuperation and support to the small-scale farmer project – Micro-watershed 2 (in short the MB2 project), funded by the World Bank and the state government of Santa Catarina, Brazil, and implemented in partnership by Epagri and the State Secretariat of Agriculture, is the initiative under study. The second phase of the project commenced in 2003 and was completed in 2009 (the third phase is currently still under negotiation) having set out to achieve the following objectives:

- managing and conserving soil and water over 250,000 hectares affecting 50,000 families;
- implementing the management structure in three river basins covering a total area of 8.4 thousand square kilometres;
- implementing in two corridors covering an area of 4.2 thousand square kilometres;
- establishing systems for collecting animal waste from 16,500 properties;
- establishing riparian forest along 2,000 km; and
- implementing the Environmental Education Programme in 1,000 rural schools, reaching 92,850 people, including farmers, teachers and scholars.

2.3 Key project activities

These include:

- organizing farmer groups into micro-watershed development associations;
- supporting small scale farmer activities;
- providing support to the housing of small scale farmers;
- strengthening the production system of small scale farmers; and
- supporting small scale farmer households through value addition activities.

2.4 Social and institutional organization

The communities participate actively in most CBM practices, thereby consolidating community roles for implementation, monitoring and evaluation. In addition, the communities receive good support from external agencies, universities and municipal government. Technical support on CBM activities such as PVS of maize and rice, and the provision of diversity kits is facilitated by Santa Catarina State Enterprise for Agricultural Development and Extension, within the context of the MB2 project.

The Micro-Watershed Development Associations were established under the MB2 project, which hired facilitators with good agrobiodiversity track records to assist in the process of social learning and advancing community level agrobiodiversity management. Institutional working modalities required for implementing CBM have been developed through the MB2 project at micro-watershed and community levels.

2.5 Plant genetic resources

Prior to the advent of the green revolution in southern Brazil, most of the farming activities were initiated by the colonialists, including maize, beans and other local food crop cultivation of many local landraces. In the late 70's every family cultivated landraces. Later, farmers turned to higher yielding varieties and the use of fertilizers and pesticides resulting in the local extinction of landraces of all major food crops.

Contemporary CBM practices have seen the establishment of PVS for both maize and rice with widespread community involvement. Sixteen varieties (6 local) of maize and 19 rice varieties (including 14 landraces from Guaraciaba) have been involved in selection. Diversity kits that were distributed to families have also increased the cultivation of potatoes and beans for household consumption. Approximately 16 species and 52 varieties were multiplied to cater for 300 families.

2.6 CBM practices

1. Generating awareness and an understanding of local diversity:
 - increased the concern over genetic resources losses during the green revolution;
 - recording traditional knowledge in a package of practices for farmers distributed as flyers;
 - planned diversity fair for rice, beans and popcorn in 2011.
2. Establishing community institutions, developing their capacities and consolidating CBM in their working modalities:
 - establishment of the Micro-Watershed Development Associations;
 - hiring of facilitators with good agrobiodiversity track records to assist in capacity development;
 - capacity development from UFSC to families engaged in participatory plant breeding.
3. Developing conservation practices (including entrepreneurship and marketing of agrobiodiversity), monitoring and evaluating practices, promoting social learning and scaling-up:
 - high levels of participation in CBM practices;
 - support from external agencies, universities and municipal government;
 - PVS;
 - PPB;
 - technical backstopping;
 - diversity kits;
 - seed production;
 - processing of vegetables and fruits for sale at the local market.