

## 5 Site description for Porteirinha, Brazil

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### 5.1 Context

Porteirinha site is located in the semi-arid northern part of Minas Gerais state. The human development index for this area scores it amongst the poorest in the state. The main sources of livelihood are agriculture and animal husbandry. Household landholdings vary from small to large with the majority being approximately 3 ha in area and less than 10 % being above 25 ha. Predominant crops include maize, sorghum, beans, pumpkin, cassava and pigeon pea. Some cash crops such as *Jatropha curcas* and *Opuntia sp.* have been introduced for biodiesel and animal feed production, respectively.

### 5.2 Institutional and project setting

The working title for the ongoing CBM related project at Porteirinha site is REPARTIR (Participatory research in the conservation, value addition and sustainable use of genetic resources of Cucurbitaceae). In addition, the VABio project (Value addition in agrobiodiversity as means to empower rural communities in the semi-arid region of Brazil) commenced in 2010. In both projects, the lead organization is Embrapa Semi-Árido.

Having built upon earlier projects like the Brazil-Italy Biodiversity Programme (PBBI), which commenced in 2004, activities related to on-farm/*in situ* conservation and management of plant genetic resources, meeting the aspirations of the CBD, have been continued. The objectives of the REPARTIR are the following:

- in partnership with communities, develop programmes for participatory research, characterization, evaluation, selection, breeding, production and introduction of traditional varieties of cucurbits (Cucurbitaceae is the family of squashes and melons, including gourds);
- to quantify the local genetic diversity to assist in the management, conservation and continued use of traditional varieties of cucurbits using participatory methods, traditional methods and tools of molecular biology;
- characterize the traditional varieties of pumpkin for their content of beta-carotene, anti-oxidant activity and total carotenes for the production of functional food preparation and nutrition labelling;
- with the participation of communities, develop alternatives to promote production, processing and marketing of agro-ecologically suitable sponge plants as a source of alternative income and generating new market opportunities; and
- contributing to the training of small producers, technicians and students in rescuing, managing, participatory breeding and producing traditional varieties.

The VABio project also aims to promote participatory approaches to CBM, varietal selection and breeding, value addition, sustainable utilization of local genetic resources, evaluation of CBM activities and empowerment.

The donor for these projects is the Brazilian Embrapa Macro Programme for small scale farming. Partners are predominantly organizations within Embrapa but for the VABio project, various community oriented, research, extension and education service institutes are involved, including Empresa Baiana de Desenvolvimento Agrícola S.A. (EBDA) and Universidade do Estado da Bahia (UNEB).

### 5.3 Key project activities

The key activities are all participatory in nature and include:

- diagnosis of conservation *in situ*;
- conservation of traditional varieties of cucurbits;
- characterisation of varieties;
- selection and breeding of traditional varieties; and
- agro-ecologically appropriate sponge gourd production.

Planned activities of the VABio project were, in addition to what REPARTIR practice, to develop models for CBM, include PVS, PPB and value addition of lufa sponge, pumpkin, manioc and goat feed in local activities and lastly, to evaluate empowerment within the community.

### 5.4 Social and institutional organization

In 1991, the Association of Smallholder Farmers of Tamboril was established. Today, the association has 80 members who meet at least once a month. The community grow cassava at a mainly individual household level, but in 2000, the Association established an area of communal land for cassava production. The association has also been granted a community centre for cassava-flour processing by the local government.

Under the PBBI, the first project meeting was held in 2006 between the local labour union and the community which foremost aimed to increase community awareness on the potential for sponge gourd as a source of income. A survey was conducted to identify the variety and frequency of sponge gourd occurring spontaneously in the community. In 2006, a diversity block was carried out as a group activity, facilitated by Embrapa. The community participated in varietal selection with technical inputs from Embrapa scientists.

In 2006, Embrapa secured additional funds from the National Council for Scientific Research for implementing participatory research for conservation, value-addition and sustainable utilization of Cucurbitaceae genetic resources. The funds were also utilized for capacity building on sponge gourd production and value addition. In 2007 and 2008, Embrapa, together with the community, evaluated the success of sponge gourd production in the area. It was discovered that production was not limiting success but that poor marketing was discouraging community members' involvement. In reflection, the CBM process has been predominantly driven by Embrapa to fulfil its mandate of realising conservation activities in a participatory manner. The community's interest in working with sponge gourd; however, is diminishing because of the association's members lacking the necessary capacities to develop market linkages.

### 5.5 Plant genetic resources

Since 2007, the community have been cultivating sponge gourd in an area considered communal, and occasionally in backyards. Pumpkins are always grown for food as well as for livestock feed. Other crops grown on communal land include beans, pigeon pea and cassava. Maize and sorghum are also important food crops.

## 5.6 CBM practices

1. Generating awareness and an understanding of local diversity:
  - awareness raising meeting on sponge gourd;
  - surveying local diversity and abundance of sponge gourd.
2. Establishing community institutions, developing their capacities and consolidating CBM in their working modalities:
  - formation of Association of Smallholder Farmers of Tamboril;
  - capacity building course on sponge gourd production and value addition;
  - monthly association meetings.
3. Developing conservation practices (including entrepreneurship and marketing of agrobiodiversity), monitoring and evaluating practices, promoting social learning and scaling-up:
  - diversity block;
  - participatory research;
  - PVS;
  - technical backstopping;
  - extension and input services from Embrapa;
  - donation of the community processing centre by local government;
  - association setting aside communal land.