

Araucária
forest with
maté shrubs



From maté extractivism to the regenerative management of Araucária forests

Paulo Petersen, José Maria Tardin and Francisco Marochi

Extraction of maté leaves has always been an important economic activity in Paraná, Brazil. Now, improving the production of maté groves has become the entry point of a Regenerative and Analog Agroforestry (SAFRA) programme initiated by the Central-Southern Paraná Farm Workers Forum. Farmer experimentation, farmer-to-farmer exchange, technical training and multi-media communication are important methodologies in this programme which is now extending to value adding and marketing of other forest species, especially medicinal plants.

Historic development

The maté (*Ilex paraguariensis*) is a tree species native to the *araucária* (*Araucária brasiliensis*) forests in southern Brazil. It was used by indigenous peoples to prepare teas well before the arrival of the Portuguese, and afterwards was incorporated into the traditions of the European settlers. Its economic importance also dates back to pre-Colombian times, as we have historical records of bartering between Guarany Indians from southern Brazil and the Incas in Peru. Beginning in the late 19th Century, the central-southern region of the State of Paraná began its “maté cycle,” during which the cultivation of maté became a major influence in determining the local landscape (Souza, 1998). Maté producers settled on small farms in a process that,

together with the later arrival of European immigrants, contributed to the consolidation of a land-holding structure based on small-scale farming.

The faxinal system

During the consolidation of family farming in the region, agroecosystems were developed that combined multi-cropping with open-range livestock and the extraction of maté leaves. This latter activity was the main cash generator for farmers. With growing pressure on the land in several of the region’s municipalities, the system could no longer support farming and open-range livestock raising. The pressure to separate these two activities led to the creation of “community ranges” in which both livestock was raised and maté extracted. This novel form of technical and economic organisation became a typical trait of family farming in several municipalities, and came to be known as the *faxinal* system (Chang, 1988). The maté-extraction activity was thereafter carried out both in livestock pastures – in the *faxinal* areas – and inside the *araucária* forest areas.

Today, although its relative economic significance for small farmers is much less, maté extraction is still a stabilising factor for family income, since it is less vulnerable to the ups and downs of weather and markets than other traditional crops such as beans

and corn. It was the farmers’ recognition of this strategic function that led them to preserve major areas of the native forest in their agroecosystems. This is why the central-southern region of Paraná has much more forest cover than neighbouring areas.

Intensification of maté production

Traditional maté-related practices are still largely based on extraction, and the adoption of measures to renew maté groves or revitalise their productive potential is not common. Due to the growing pressure to occupy forest areas caused by the fragmentation of farms as they are handed down from one generation to the next, this traditional system now faces a crisis of productive potential. Recently, in order to enhance maté yields, a few official programmes have disseminated the idea of intensification, by copying techniques developed in Argentina, based on open-field plantations where the forest once stood and the intensive use of soluble fertilisers and pesticides. Initial experiences in using this system in central-southern Paraná shown its incompatibility with local conditions, principally the exponential rise in production costs. These “modern maté groves” are not economically viable. They not only degrade the environment but also break down the farmers’ cultural relationship with what is left of the forest.

Developing agroecological alternatives

The need to overcome this crisis led the Central-Southern Paraná Farmworkers’ Forum (see Box 1) to develop and disseminate alternative maté-grove management approaches that are compatible with the social, cultural and historical process of maté extraction in the *araucária* forest and under the *faxinal* system. With technical and methodological assistance of AS-PTA (Consultants in Alternative Agriculture Projects), the Forum has promoted a process of experimentation involving local communities that try to adapt the “SAFRA” approach (Portuguese acronym

Box 1. Farmers’ organisations in central-southern Paraná

With 22 municipalities and a land area of 13,000 km², the population of the central-southern region of Paraná numbers 419,198, 65.6% live in rural areas. The area is set off geographically by its social and political forms of organisation. These were established historically by the farm workers’ union movement in the 1980s and culminated in a regional coordination that aimed to plan and implement actions to defend the interests of family farmers through the Central-Southern Paraná Farmworkers’ Forum. Unions from 15 of the municipalities participate actively in the Forum as do 200 community associations and informal groups. The Forum’s overall activity guidelines are formulated during its bi-annual regional Congresses.

for Regenerative and Analog Agroforestry System) to their agroecosystems (see p14). This method works towards optimising environmental and economic aspects of agroecosystems as efficiently as possible. The approach is partly based on agroforestry practices developed by indigenous people from Asia, Africa and Latin America (Foresta, 1993; Götsch, 1995). Based on observations of species succession, this method seeks to reconstitute a productive forest, analogous to the original forest, through radical pruning to rejuvenate, revitalise and accelerate the system's natural succession process and through the introduction of native species, along with the densification of maté populations, in order to re-establish ecological conditions appropriate to greater production from the maté groves.

Social dynamics of innovation

To launch the process of adapting the SAFRA method to the region, half-hectare test plots were set up in 1995 on 15 farms in the municipalities of Bituruna and São Mateus do Sul, where the typical farming takes place both in the *araucária* forest and in *faxinal* areas. When the test plots were established, the areas were at different stages of plant succession: degraded by farming activities and colonised by grassy weed vegetation; fallow land colonized by short-cycle pioneer bush (*capoeira*); secondary forest growth; and *faxinal* areas (a combination of trees at various stages of succession, grassy weeds and domestic animals).

In addition to their experimental purposes, these plots were the bases for creating a broader technical-training programme in an interaction between farmers and the academic-based knowledge contributed by the AS-PTA consultants.

The 35 farmer-experimenters who participated most systematically in the tests were organised into two groups that met regularly at events designed to implement,

manage and monitor the SAFRA approach in their respective municipalities. In addition to examining their systems, these events provided an extremely fertile setting for the technical and methodological training of the farmers' families, as well as for planning group activities. The two groups met together each year to exchange experiences and plan common actions.

The test plots did not make use of conventional experimental designs, since the objective was not statistical analysis. Monitoring the performance of SAFRA systems was based on easy to visualise qualitative criteria. This participatory monitoring process generated a large amount of data and information that has been valuable in teaching other farmers interested in applying the method on their own farms. Therefore, the test plots were part of a social dynamic supported by the farmers' organisations.

The process and results of the experiments and technical training activities have been systematised and communicated through on-site training events and visits, as well as to wider audiences through radio programmes, newsletters, videos and newspapers. In the programme's methodological strategy, therefore, experimentation, testing and communication are loosely connected.

Disseminating the process

In addition to spreading the SAFRA approach in the region, efforts were also made to spread the social process that has allowed it to be adapted to the ecological management of maté production. In this way it was hoped to ensure a sustainable social dynamic that would generate and exchange technical innovations. Three years after the tests began on 15 farms, the positive technical results and the social mobilisation achieved in support of the proposal has made it possible to implement a broad regional programme dedicated to training farmers in several of the

region's other municipalities and communities. The farmer-experimenters in the programmes' initial groups have now become trainers, unleashing a horizontal, "farmer-to-farmer" based dynamic (see LEISA Newsletter Vol. 16 No.2, p.26-27).

The technical and methodological results accumulated through the experimental phase have been well used by farmers' organisations in their discussions with official agencies working in rural areas. The farmers' objective is to influence the formulation and implementation of public policies for regional agricultural development.

Towards forest management

In addition to expanding the scale of the SAFRA approach to maté production, the farmer-experimenters have recently taken on the study of other native forest species that might be of economic interest. Medicinal plants are particularly interesting here. Through a regional people's medicine programme based on phytotherapy - organised and maintained by the regional Forum of farmers' organisations - over 150 medicinal plants native to the *araucária* forest are now gaining greater cultural and economic value. In recent years, this programme has handled approximately 300,000 medical consultations for both rural and urban residents in the region.

In addition to the social and cultural revitalisation of the value of local biodiversity, the creation of this new front for technical experimentation has increased the economic value of the work done by rural women, since the management of medicinal plants within the farm family has traditionally been their responsibility.

The farmers' organisations involved in the programme are presently organising ways and means of processing and marketing the products of their SAFRA systems. Their development strategy in this sphere is once again based on the methods used to achieve technical innovation, namely to associate an experimental process in pilot projects with an ongoing exchange of knowledge between farmers and technical consultants.

Farmers and technicians working together to improve forest management.

Paulo Petersen, José Maria Tardin and Francisco Marochi, AS-PTA, Rue de Candelária, 9-6° andar - Centro, 20091-020, Rio de Janeiro, RJ Brazil. Phone: +55 21 2538317; Fax: +55 21 2338363; aspta@ax.apc.org; asptapetersen@ax.apc.org

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