

THE NEW YORK BOTANICAL GARDEN

Participatory Management for Sustainability in the Tapajós-Arapiuns Extractive Reserve, Brazil

In April of 2004 and with support from The Overbrook Foundation, The New York Botanical Garden and collaborators initiated the project *Participatory Management for Sustainability in the Tapajós-Arapiuns Extractive Reserve, Brazil*. The Overbrook Foundation newsletter of July 2005 included a brief article on the Tapajós-Arapiuns Extractive Reserve project detailing forest conservation efforts through development of sustainable industry in the Tapajós-Arapiuns region in Brazil. Since then, this project has continued to make ground-breaking progress. Dr. Charles M. Peters, Kate E. Tode Curator of Botany at The New York Botanical Garden and a globally recognized authority on the sustainable management of tropical forests, is providing his scientific expertise to this initiative. The overall objective of the project is to help *caboclo* communities in the reserve manage their forests for the controlled and sustainable utilization of furniture woods. This objective involved several activities, such as:

- 1) developing formal management plans with collaborating communities to be submitted to the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA),
- 2) facilitating the sharing of participatory forestry and silviculture skills with other communities in the reserve, and
- 3) initiating a permanent plot system for monitoring the environmental impact and growth response of harvesting. Over the past two years, the Tapajós project has successfully achieved these objectives and, in the process, has essentially re-defined the community management of extractive reserves in Brazil.

During the course of the project, the number of collaborating communities has increased from two to seven, comprising more than 1,200 hectares of managed forest. There are now 84 local craftsmen making wood furniture through the *Oficina Caboclas do Tapajós* (OCT) initiative, and to date they have produced and sold almost 900 pieces worth almost \$35,000 (US). Four of the communities have completed and submitted their management plans, and one of them, Nugini, has already had its management plan approved. The villagers in Nugini and Nova Vista have also started to set up a network of Continuous Forest Inventory (CFI) plots within their management area.

In addition to these advances, there have been several project achievements of note. The Instituto Brasileiro de Negócios Sustentáveis (IBENS) completed a business plan for OCT, and last year a specialist from IBAMA's wood processing center visited several OCT communities to help them develop procedures for drying and storing their wood. Local craftsmen have also started managing forest vines to integrate basketry into their wood furniture, and a cooperative has been set up that is now selling furniture throughout Brazil, including in Tokstok, one of the major national furniture chains.

Finally, the development of community management plans has generated a wealth of information about the structure and dynamics of the tropical forests along the Tapajós River. Systematic inventories of 55 timber species have been conducted in the management areas of each of the collaborating communities, and quantitative size-class diagrams have been constructed for each species. The inventory data have also been paired with GPS readings to produce detailed wood volume maps for each of the management areas that are used to plan



Figure 1. Community management operations in the Tapajós-Arapiuns Extractive Reserve. A. Antônio José Mota Bentes coordinating the selection of species to be included in the forest inventory at Nugini. B. Inventory crews from the village of Pini. Note bicycles in the forest and female crew member. C. Diameter measurement during field operations at Nova Vista.

harvest operations. In terms of the growth studies, the project has now collected two years of diameter growth data from almost 400 sample trees. The community management plans in the Tapajós-Arapiuns Extractive Reserve are now based on ecological data as good as, or better than, any forestry operation in the Brazilian Amazon.

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The Tapajós project has demonstrated several important points about forest conservation and management in the Amazon. The first is that local communities are clearly capable of collecting the baseline data necessary for sustainable forest management, compiling these data into a workable management plan, and then studiously following the management prescriptions outlined to create a sustainable form of forest utilization. Second, the project has demonstrated that wise forest use can engender forest conservation. Due to the intensive management and selective harvest of 1,200 hectares, the remaining 638,800 hectares of tropical forest in the Tapajós-Arapiuns Extractive Reserve will be essentially left alone. Third, the *caboclo* communities in the reserve have created a definitive link between their livelihood and the continued health of forests within which they live. This, in itself, is perhaps the strongest and most engaging argument for forest conservation that a project could ever hope to achieve.