

RIL becomes real in Brazil

An innovative ITTO-funded training project has taught loggers, foresters and forestry trainers the how and why of reduced impact logging

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REDUCED impact logging (RIL)—logging practices employed to reduce the environmental and social impacts associated with industrial timber harvesting¹—appears to be a concept whose time has come. While acknowledging that by itself RIL cannot guarantee the sustainability of tropical forests, most tropical foresters and conservation advocates seem to agree that sustainable forest management cannot be achieved without it. For example, two of the priority actions recommended by the International Tropical Timber Council for adoption in all ITTO producer countries are to:

- apply reduced impact logging; and
- train the workforce, including supervisors, in reduced impact logging.

But in spite of widespread acceptance at the policy level, relatively few loggers working in tropical forests use RIL technologies. Many of those who resist converting from higher-impact 'conventional' logging argue that RIL is too expensive or too cumbersome, or that it requires specialised equipment and highly skilled workers who are generally not available (Putz et al. 2000).

How can the uptake of RIL be encouraged? In 1997, the Council approved a project (ITTO PROJECT PD 45/97 REV.1 (F)) proposed by the Government of Brazil to train forest operators from throughout Latin America and the Caribbean in the theory and practice of RIL. The project, which operated from 1998–2000, was implemented by Fundação Floresta Tropical (FFT), a subsidiary of the Tropical Forest Foundation (TFE; see box), with additional support from Brazilian government agencies, universities, NGOs and industry sources. The target audience included professional foresters, logging supervisors, operations managers and forestry trainers, with the expectation that after these people had completed the training they would become advocates for and trainers of RIL in their home regions. All of the courses were held at the FFT training site in Brazil's eastern Amazon, but they emphasised methods for adapting RIL technologies to other forest conditions in the region.

The training courses developed for the project emphasised fieldwork and the development of practical skills but also



Fresh start: participants and instructors in a RIL training course at the FFT training centre warm up with a round of questions and answers before donning their safety gear and heading to the field for a day of training on RIL techniques. *Photo: D. Dykstra*

provided sufficient background on the principles of forest management so that the trainees could understand not only the 'how' but also the 'why' of RIL. Each course was 18 days in length, divided into three stages:

- **Stage 1** (1 day): held in Belém after the arrival of the participants. This day was occupied with lectures introducing the theoretical, practical and legal aspects of tropical forest management;
- **Stage 2** (16 days): held at the FFT training site located at Fazenda Cauaxi. This forest is owned by Cikel Brasil Verde S/A, a company that produces sawnwood and plywood certified under the principles and criteria of the Forest Stewardship Council (FSC). The forest is located near the town of Ulianópolis in the eastern part of the State of Pará, about 450 km by road southeast of Belém. During the training period each participant rotated through all activities as part of a RIL crew. The work included: 1) **pre-harvesting activities**—definition of harvesting blocks, line cutting, forest inventory, vine cutting, and the establishment of permanent sample plots; 2) **harvest planning**—layout and construction of secondary roads and log decks, data processing and map-making, harvest-tree selection and marking, and skidtrail planning and layout; 3) **harvesting activities**—felling, skidding and log deck operations; and (4) **post-harvesting activities**—assessing the results of logging operations, conducting silvicultural treatments, and monitoring the permanent sample plots and other indicators; and
- **Stage 3** (1 day): the participants returned to Belém to evaluate the course and the trainers and to exchange ideas about improving RIL methods and tropical forest management in general.

¹For descriptions of RIL techniques and their application, see TFU 11/2 (2001).



Less damage: author Elias sits on the stump of a tree felled using directional felling techniques during a RIL training exercise. *Photo: D. Dykstra*

Project results

In 2003 we carried out an ex-post evaluation of the project, visiting the project site, interviewing a number of stakeholders, and examining the documentation. By almost any measure, the project was a success. When it concluded in mid-2000, 138 persons had been trained, 44% more than anticipated in the project proposal. Of these, 119 were from Brazil, 18 from other countries in the region, and one from Africa. Trainees logged a total of 1250 hectares of forest using RIL techniques. Because the project was intended to prepare a cadre of trained professionals who would carry the training back to their own regions, several training manuals and a set of graphical aids were prepared and tested during the courses. The primary training manual, in Portuguese, was also translated into Spanish.

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The training project also managed to catch the imagination of the Brazilian people; a number of articles describing the project and its objectives appeared in Brazilian newspapers, environmental bulletins and websites. By 2000 both ITTO and FFT had become well known throughout the Amazon, thus marking a step forward for another of the ITTO Objective 2000 priority actions: that of raising public awareness that timber harvesting can be consistent with the sustainability of tropical forests.

The Tropical Forest Foundation

The Tropical Forest Foundation (TFF), an NGO based in Alexandria, Virginia, USA, was founded in 1995. It has been working since 1995 with its subsidiary Fundação Floresta Tropical (FFT) and ITTO to train loggers and their supervisors in both *how* to do reduced impact logging and also *why* it is important. According to FFT Executive Director Johan Zweede: "It's absolutely essential that the training be done in the field, using up-to-date logging equipment and methods, and that every trainee learns every aspect of planning, inventory, logging and assessment of results". Although forestry enterprises in the Brazilian Amazon were initially sceptical about whether RIL would prove feasible, the adoption of RIL has steadily increased as loggers have attended training courses and their skills in the new techniques have been proven on the ground.

During our visit to Brazil in connection with the ex-post evaluation, we had the opportunity to visit the FFT training site and to interview representatives of the forest industry, research institutes, government agencies, universities and NGOs who were familiar with the project and who were able to offer opinions regarding its impact on forestry in the Brazilian Amazon.

For example, according to Roberto Pupo, Vice President of AIMEX, a timber industry association based in Belém, companies are beginning to recognise that it is good business to adopt RIL. This has come slowly because of the natural scepticism that exists when any new set of practices is introduced. Pupo told us: "Once FFT was able to prove the economic viability of its practices [see, for example, Holmes et al. 2000], and could point to the full adoption of RIL [and subsequent FSC certification] by Cikel, FFT's host company, interest within the industry grew rapidly".

Pupo also told us that forestry enterprises are giving priority in hiring to holders of RIL training certificates issued by the project, which he interprets as recognition by the industry that people who have had this training are far more skilled than those who have not, whether they are forest engineers or technicians, or labourers such as sawyers and skidder operators.

The drive toward forest certification has had an important positive influence on the demand for RIL training because it is widely recognised that a major impediment to certification is the lack of qualified labourers and supervisors. Natalino Silva, a well-known forestry scientist based in Belém, told us that the training offered under the project "is regarded as the *de facto* standard for meeting RIL requirements related to certification". He pointed to the fact that as of July 2003, ten forestry enterprises in the Brazilian Amazon with a total of slightly more than 400 000 hectares of forest had been certified under FSC. Nine of these enterprises, with 80% of the total area certified, have utilised the RIL training offered by the project.

We were told by Rocia Oliveira of the Brazilian Cooperation Agency that the Government of Brazil is hoping to establish a network of RIL training centres throughout the Amazon. The training courses offered by these centres would be based on the ITTO/FFT program and the network would have a



New forest: the training courses conducted under the project incorporate a variety of silvicultural treatments as well as reduced impact logging. Here a 'vine tangle' of about 1000 m² has been cleared and then planted with several native timber species. All such planted areas involve a mixture of high-value and fast-growing trees. The tree with darker leaves near the centre of the photo is mahogany (*Swietenia macrophylla*). Photo: D. Dykstra

coordinating unit modelled on FFT that would be responsible for training and auditing the trainers in all of the centres. A new ITTO training project (PD 206/03 REV.1 (F)) initiated this year, again with FFT as the implementing agency, will provide a transition that should bring this network closer to reality.

Four technical schools and one university in the Brazilian Amazon are all using ITTO/FFT training for their forestry students. Maximilian Steinbrenner of the Federal Rural University for Amazonia (UFRA) told us that the training offered by the ITTO/FFT program provides a thorough field practicum for the university's students, serving as an excellent adjunct to their regular coursework.

Enabling conditions

Inevitably, the success of any new idea depends at least partially on the presence of conditions that make the idea viable. According to Adalberto Veríssimo of IMAZON, a non-governmental organisation working on forest policy issues in the Amazon, over the past few years much has changed within the country to remove incentives for forest clearing and to encourage the adoption of better forest practices. An example of one such enabling condition is the development and implementation of new regulations requiring that forest management plans be prepared and approved for all forest areas that are subject to industrial harvesting. IBAMA, the government agency charged with regulating forestry activities, has recently begun implementing procedures to monitor forest management operations through a continuous program of auditing, and many of IBAMA's auditors have now attended ITTO/FFT training courses.

Internationalising the effort

Perhaps the greatest weakness of the project is that it attracted so few foreign participants—only 14% of the total compared to the 30% anticipated in the project proposal. Undoubtedly a major reason for this was the cost of travel, which had to be borne by the participants or by a sponsoring government agency or forestry enterprise. To some extent this may be overcome by the establishment of an ITTO-funded RIL training centre in Guyana, which is currently in preparation, and by the use of other sources of funding, such as ITTO fellowships, to allow individuals to travel to the training centres.

The overall conclusion of our evaluation is that the project has made a significant and lasting contribution to the advancement of sustainable forest management in Brazil. Its contribution to the region as a whole was less than might have been wished, but even so this project is one that other countries and other regions would do well to emulate. The successor project alluded to above will enable the good work already done in Brazil to continue and consolidate.

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