

### Into the Wilderness

# Brazil Pursues Amazon's Riches With a Project On a Huge Scale Befitting the Region's Vastness

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SERRA dos CARAJAS, Brazil—Evening brings a kind of peace to this ridge in the Amazon jungle, but not silence.

From across the two-mile-wide valley comes the roaring of monkeys. A pair of macaws, their plumage muted in the twilight, offer a single squawk as they flutter past among the 150-foot trees. Battalions of insects chirp and whir in the plateau rain forest.

The dreamlike setting somehow seems appropriate for the \$60 billion development project, doubtless the world's largest, which centers on the huge iron mine being scooped from the red earth beneath these rolling hills of green.

This is the *Programa Grande Carajas*, the Brazilian government's plan to bring electricity, transport, agriculture, industry and people to 160,000 mostly jungle-covered square miles of the Eastern Amazon. It is an area larger than California.

#### High Stakes

Government ministers say Carajas is of the highest importance to Brazil's future. The project is supposed to develop exports that will help pay off Brazil's towering external debt of nearly \$80 billion. It is supposed to develop agriculture to help feed a population growing by three million a year. It is supposed to open up land for settlement by the masses who crowd the big-city slums and lengthen the unemployment rolls.

Carajas isn't the first Amazonian development dream, only the biggest. Henry Ford tried Fordlandia in the 1920s, and shipping magnate Daniel K. Ludwig struggled for a decade with his Jari Project before giving up last year. But where the American moguls failed, the Brazilians are convinced they will succeed.

Foreign bankers have already backed that judgment with \$1.7 billion in financing, and there is more to come. "Carajas is the first project that shows a real chance for success," says Olavo Setubal, the president of Banco Itau, Brazil's second-largest private bank, which is financing some Carajas-related projects.

There are, of course, skeptics and critics. With the world in recession, export markets for the projected iron-ore production are weak. Agricultural colonization is costly and difficult. Land tenure is politically touchy. Environmentalists warn that clearing the jungle could bring ecological disaster.

#### Bald Hills

The origins of Carajas go back to the late 1960s, when a geologist set his helicopter down on one of a series of bare patches in these jungle hills. The world's largest concentration of high-grade iron ore, estimated at 18 billion tons, 66% pure, turned out to be responsible for the bald spots. Plans to exploit the find were laid by a joint venture of U.S. Steel Corp. and the Brazilian government-controlled mining company, Cia. Vale do Rio Doce, or CVRD. The partnership broke up in 1977 when U.S. Steel sold out its share, unable to agree on the course of development.

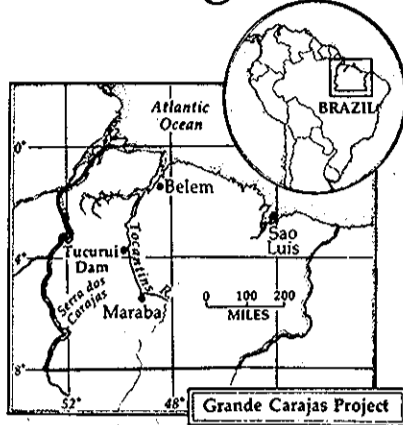
CVRD has since pressed ahead on its own within the framework of *Grande Carajas*, which is being overseen by a committee of the Brazilian cabinet under Antonio Delfim Neto, the planning minister and economic czar. Initial exploitation of the iron-ore deposit has begun. A pilot plant for ore treatment has been finished, and the full-scale treatment plant is being built. A 550-mile railroad is under construction from the mine here to the old coastal town of San Luiz, Maranhao. There, CVRD also is building an ore-loading terminal and port for ships of up to 280,000 tons.

At Tucuruí, 150 miles from here on the Tocantins River, an eight-million-kilowatt hydroelectric dam is also under construction. It will provide electricity for the mine and nearby development area.

#### Weak Market

Plans call for iron-ore shipments to start at 15 million tons in 1985 and grow to 35 million tons a year by 1987. They are supposed to generate some \$20 billion in foreign exchange over the mine's first 10 years of operation. CVRD says it has already signed contracts with customers in Europe, Japan, South Korea and Taiwan for 26 million tons of ore a year at prices to be determined annually, based on the world market. That, however, is a big variable. Steel production and iron-ore demand currently are severely depressed. "To reach Delfim's export projections for Carajas, the world can't be in recession," says Mr. Setubal, the banker.

The Brazilian government is counting on a major upswing in iron-ore demand, a hope that has some basis. A World Bank report says of iron ore that "there is a reasonable expectation that the market will be in equilibrium and possible deficit by the time Carajas comes on stream in 1985-1988." Walter F. Carter, the director of the steel service at Data Resources Inc., the Cambridge, Mass., economic consultants, also expects a



recovery.

The World Bank has backed its judgment with a \$304 million loan signed in August. Other foreign lenders include the Japanese government and private institutions, the Common Market, European banks and an international syndicate led by Morgan Guaranty Trust Co.

All that is just for the \$4.5 billion iron-mining project. It is a piddling enterprise compared with the grandiose sweep of the whole *programa*.

First, there are other ores to be developed in the Serra dos Carajas—rich deposits, says CVRD, of manganese, copper, bauxite, nickel and gold. Some 25,000 *garimpeiros*, or prospectors, already have scratched 14,000 kilos of gold by hand from an open pit at nearby Serra Pelada.

Seven more hydroelectric dams are planned up the Tocantins and its tributaries, at Santa Isabel, Couto Magalhaes, Santo Antonio, Carolina, Porto Nacional, Peixe and Sao Felix. The Tocantins is to be made navigable at least to Marabá, 700 miles from the ocean, and possibly farther. Along the waterways and railway a number of agricultural and industrial centers are planned.

#### Tax Rebates

Except for setting the overall rules, however, the Brazilian government wants no further involvement. "After CVRD and Tucuruí, our idea is to have minimum state intervention to try to teach the people to believe in the market. We grant the incentives, but the risk is the entrepreneurs," says an official of the Carajas planning secretariat.

To this end, the government gives income-tax rebates to contractors on the initial Carajas projects provided they invest the rebates in further development. For example, the government would like investors to build pig-iron smelters along the railway and waterways.

There are also plans to induce private contractors to open up agricultural areas along the transport routes, subdividing land and selling it to farmers. These homesteaders are expected to grow rice, corn, beans, manioc, sugar cane and other staples for local consumption and export. One such project is under way at Tucuma, near Sao Felix do Chingu, an area of good soil.

Creating such farms will go slowly, Banco Itau's Mr. Setubal cautions. "Tucuruí (dam) is a tremendous achievement," he says. "But to colonize, even along the railroad, is very difficult. It requires transport, and the investment for that is much higher than for the mine. I don't see the resources available." Moreover, he adds, "There's no local consumption, and it could be expensive to get the produce to market. Also, tropical agriculture needs fertilizer."

#### Title Questions

Where land is concerned in Brazil, ownership is often as thorny a problem as arability. CVRD has started an experimental farm here in the Serra dos Carajas that has produced good crops of corn and beans, a spokesman says, "but we don't push it because we don't want to attract squatters." As a government official explains, "If you make a railway, people come in and try to squat on the land alongside it. It's a very difficult problem."

In a dispute between the Brazilian government and the left-leaning Catholic church, two French priests have been jailed in Belem over the land question. They were convicted by a military court of having incited squatters to resist eviction. One man died and some police were injured in the ensuing fracas. Predictably, some members of the church's Land Committee take a jaundiced view of Carajas.

"The problem with Carajas is that it takes the 'big project' approach to development," says Matheus Otterloo, a 46-year-old former priest in Belem who is active in the Land Committee. "What's needed here is agrarian reform and attention to small farms. But with Carajas, I think that's impossible."

One who develops land in the Carajas region risks more battles with squatters. "It's a very old problem; it goes back 400 years" to the original land grants of the Portuguese crown, says a government official. But he is confident the squatters can be persuaded "to either take other land or accept regular

titles" under a government program to settle ownership of the land once and for all.

Many who take little interest in the politics of Carajas worry about its environmental effects. The government wants investors setting up those smelters and other industrial projects, for example, to fuel them with charcoal made by stripping and burning jungle forests.

"Using that wood alone you could probably produce electricity cheaper than building the dam," says a government official. He cites estimates of enough wood in the forest to produce charcoal for 17,000 years or to replace 120,000 barrels a day of oil imports for 3,500 years.

Such talk horrifies ecologists, who worry that clearing the vast Amazon jungle could create a climatic disaster. Only a part of the jungle soil is good enough to regenerate timber and vegetation. Much of the rest of the soil, where the jungle feeds off its own decay, is poor. Once the cover is removed from such areas, it is unlikely to grow back.

Banco Itau, trying to promote responsible development and thus head off environmentalist reaction, has published scientific studies sounding ecological alarms. It cites warnings that indiscriminate clearing of the jungle could lead to erosion, increasingly lengthy droughts and eventual transformation of the jungle into arid steppes. The result could be flooding of the Amazon and climatic changes for "large areas of South America," the studies warn.

Banco Itau is calling for a "comprehensive research program" to determine the best methods of Amazonian forestry. CVRD says it has already begun such studies and is developing plans for reforestation and management where needed.