Special Advertising Supplement
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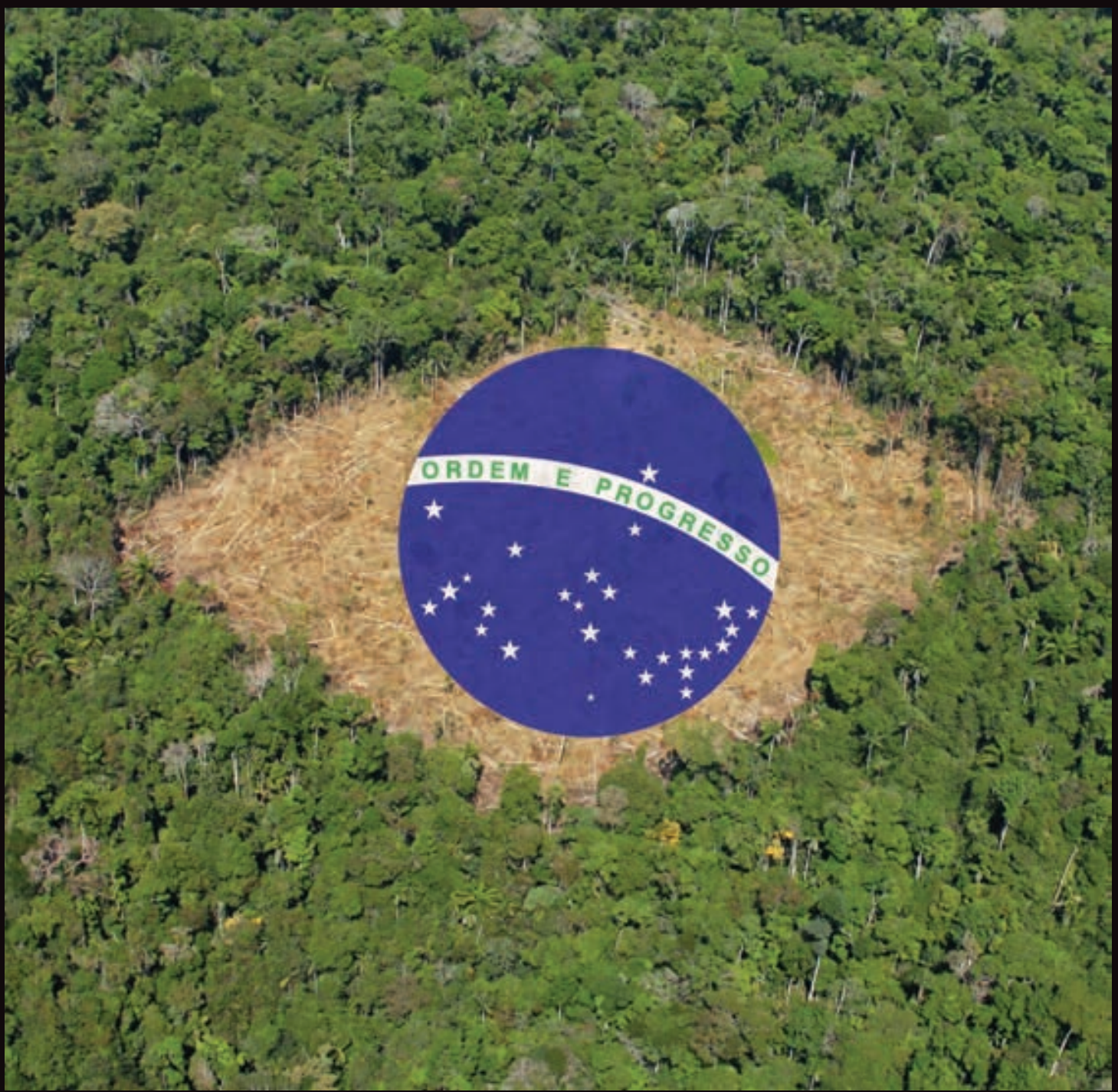
THE AMAZON

Can Copenhagen save it?

Deforestation accounts for 20 percent of greenhouse gas emissions. So when the world discusses climate change in Copenhagen in December, the Amazon will loom large. This special report looks at the issues and at existing attempts to protect the mighty rainforest.



Introduction

KEEPING IT GREEN

The U.N. climate conference in Copenhagen in December isn't just about the Amazon – far from it. But the world's biggest rainforest is an iconic symbol of the fight to balance economic development with environmental preservation.This special report examines some of the issues.

Fly over the Amazon and be awed by the endless miles of trees, broken by mysterious, glinting rivers. So all that talk of deforestation is exaggerated? But fly a different route and be shocked by smoke towering over charred swaths of felled forest. So it's time to panic? Well, the truth may be somewhere in between.

The starting point for any discussion about the Amazon is to realize how huge and diverse it is. Problems are dauntingly complex: nine countries share the Amazon Basin, which at 7 million km^2 is roughly 90 percent the size of the contiguous United States or 60 percent bigger than the European Union. Three fifths of the Amazon Basin lies in Brazil, and some 20 million people live there, ranging from tribal Indians and dirt-poor farmers to property speculators, and big ranchers to office drones. In a nutshell: there's no cookie-cutter solution.

The world is desperately worried that the Amazon will be hacked and burned away like so many other tropical forests, releasing billions of tons of CO_2 emissions and hastening global warming. Brazil is worried too.

"We want to preserve the Amazon because we know that's the way to make sure our children and grandchildren can live in a world at least as good as ours," President Luiz Inácio Lula da Silva told a crowd last June at Alta Floresta, in Mato Grosso state, a frontier town on the southern rim of the forest and the front line in the fight against deforestation. Lula, as he is known, was launching a program to provide land title deeds for thousands of small farmers — an essential step in fighting deforestation.

In some of the worst areas — Pará state, for example — officials estimate the same piece of land can be covered by as many as five conflicting title deeds. "Every hectare has claimants," said Environment Minister Carlos Minc. "If we don't know who the true owner is, we don't know who to punish and who should receive government financing to restore a degraded area."

Some parts of the Amazon are still virgin; others have been occupied in some form or other for over a century. But until the advent of satellites and GPS technology, registration of forest land was an inexact science at best. Some farmers bought their deeds; others settled on apparently empty land and later tried to claim it under what is technically known as usucaption, or positive prescription. Mix in corruption, conflicting laws, and straightforward forgery, and it's a recipe for the chaos that Brazil is now trying to resolve.

A time to chop, a time to stop

Brazil hasn't always tried to save the forest. Back in the 1970s, the then military government received World Bank support to promote settlement of the western Amazon, mainly by poor farmers lured from the south of the country. Settlers who failed to clear a sufficient percentage of their property risked losing it. Some areas produced good farms, others unforeseen degradation. "We have to tell people that if there was a time when they could cut down trees, now it's against our own best interests," Lula said. "We have been through a process of evolution, and now we have to row against the tide."

Regularizing land ownership is just one of four key government policies. Another is economic and ecological zoning. Way back, many people thought forest land was worthless, or that taller trees meant better soil. But now extensive aerial mapping and satellite surveying have made it possible to say which areas are good for farming, which are best left untouched, and which might be appropriate for sustainable exploitation of the forest. Zoning is done by the states and should be complete in 2010.

"This will give us clear rules about what to do, where to do it, and how to do it," Minc said.

The next piece of the jigsaw is called the Arco Verde, or "Green Arc," a federal program aimed at a few dozen municipalities where deforestation is worst. The aim is to reduce pressure on poor people for whom hacking down a bit of forest seems the only option. It's based on the philosophy that saving the forest requires both stick and carrot. Simply ordering people to stop cutting trees isn't enough; you also need to reduce the pressures that lead to deforestation, and to increase the inducements to keep the forest standing. For example, Arco Verde makes sure that if police close an illegal sawmill, the workers speedily receive unemployment benefits and other social benefits flow where they're needed. It also offers cheap, long loans to replant degraded areas.

However, it's the fourth plank of the program, international dollars for Amazon development, that relates most directly to the Copenhagen climate-change meeting and could have the biggest impact. Traditionally

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Add value, Save trees

Just about everybody fighting to save the world's forests knows the importance of making preservation more profitable than destruction. This isn't a uniquely Brazilian idea, but the government has adopted and transformed it into practical policies. One plan calls for guaranteed minimum prices for sustainable forest products like Brazil nuts, caffeine-rich guaraná berries, babassu palm oil, and cupuassu fruit.

"Without a minimum price the producer can't get credit, so he can't buy a truck or warehouse. He's always at the mercy of middlemen, who pay as little as possible; he remains dirt-poor and sooner or later cuts down some trees to sell to an illegal sawmill," said Minc.

wary about having foreign governments or agencies "meddle" in the Amazon, Brazil is touchy about what it sees as potential threats to its national sovereignty. However, it is starting to welcome foreign funding for preservation programs when this can be structured in an acceptable manner. Leading the way is the Amazon Fund, proposed by Brazil at the 2007 U.N. climate conference in Bali, Indonesia, and administered by the Brazilian Development Bank. Potentially, Brazil hopes this fund could steer US$21 billion in donations, mainly from abroad, into sustainable development projects through 2021. Kicking off the Amazon Fund was a US$1 billion pledge from Norway, with the first US$100 million tranche coming in 2009 and 2010 and the balance through 2015.

"Norway has to reduce its own emissions, but we must also contribute to reductions in other parts of the world," Prime Minister Jens Stoltenberg said, noting that further tranches would require Brazil to show that deforestation really is falling — each successive year the rate must be lower than the rolling 10-year average. Donations will be used as non-repayable funding for activities that contribute to avoiding, monitoring, and fighting deforestation; promoting conservation; and finding sustainable uses for the Amazon forests, such as rubber tapping, forestry management, and pharmaceutical production from plants. The overall goal is to reduce greenhouse gas emissions, given that scientists estimate tropical deforestation accounts for some 20 percent of man-made CO_2 emissions, but donations to the fund do not generate carbon credits.

These four federal initiatives for the Amazon are backed up by substantial programs from the state governments. One such program is the Forest Allowance, instituted by the Amazonas state government, whereby poor rural families can qualify for ongoing financial assistance in exchange for preserving a section of forest. It is being implemented by the Sustainable Amazon Foundation, a major not-for-profit organization created in 2007 to plow funds into sustainable development and environmental conservation, thus improving the living standards of local communities dwelling within conservation areas in Amazonas state (see pages 10 and 14).

Not just the Amazon

The rainforest takes pride of place in Brazil's climate-change program, and the target to reduce Amazon deforestation by 70 percent through 2017 implies avoiding 4.8 billion tons of CO_2 emissions. That's roughly two months of total global emissions or — as Environment Minister Minc likes to point out — "more than the sum of all the commitments that developed countries signed up for under the Kyoto Protocol, but which in some areas they are not meeting."

Starting in 2010, there will also be deforestation-reduction goals for other biomes, such as the Atlantic rainforest, Caatinga scrublands, and Cerrado savannah. Previously, without satellite monitoring, such endeavors would have been impossible.

The country is also committed to reducing energy emissions. Here, of course, Brazil enjoys a huge head start. According to the government of Brazil´s 2009 National Energy Balance, some 45 percent of total energy consumed in Brazil is renewable and CO_2 emissions are just 1.78 tons per person, compared with 19 tons in the United States and a world average of 4.3 tons. Mores than 85 percent of the country's electric power comes from huge hydro dams or thermal generators burning sugarcane residue, and of course Brazil is a world leader in using sugarcane ethanol to substitute gasoline. Today, virtually all new light vehicles made and sold in Brazil have flex-fuel engines, accepting any mix of ethanol and gasoline, and total consumption of ethanol is slightly greater than that of gasoline. The goal is to increase ethanol and biodiesel consumption by 10 percent per year.

Also, the government has agreements with key industrial sectors. Within eight years iron and steel producers will use only charcoal from replanted forests — currently around half comes from native forests. And sugarcane growers are phasing out manual harvesting, preceded by burning plantations, which creates massive localized air pollution. Mechanized harvesting avoids wasting the energy content of the stalks and leaves, which comprise one third of the plant's potential total. As research into cellulosic ethanol progresses, this could be another energy windfall. ■

Environment

Q&A Peninsula Press talks with Carlos Minc, Environment minister

"A PLANE FULL OF HOLES"

Carlos Minc, 58, took part in the left-wing armed resistance to Brazil's 1964-85 military dictatorship, suffering prison and exile. He then helped found the Green Party in 1986. A Rio state congressman and winner of the United Nations Environment Programme Global 500 award, Minc became environment minister in May 2008. He holds a doctorate in economics from the University of Paris.

What message will Brazil take to Copenhagen?

Our basic message is that we – the world – will not have another opportunity. All those Intergovernmental Panel on Climate Change (IPCC) numbers, which some people have called alarmist, well, they just get worse with every new report. We're no longer talking about (an average temperature rise of) 2°C, now we're talking about 2.5°C. So people have to look at this problem as a whole, and not just how it affects their own country. It's no good saying, "Ah, but this will be very expensive for my country; we're going to lose competitiveness for this product relative to that product." We're not discussing a commercial agreement for cotton or whatever — we're discussing our planet.

Who needs to do more – developed or developing countries?

It's easy to say that all the fault lies with rich countries, and that only they should be required to do anything. Well, I think they have to do more, but we (developing countries) must also do our part. Brazil is reducing deforestation, and our energy matrix includes one of the highest rates of renewables in the world. Last year, China invested more than US$6 billion in wind-generation programs, for example.

Some people have said that developing countries mistrust the rich countries. Is that true?

Well, they (rich countries) committed to lots of things in the Kyoto Protocol that they are not doing. Many Kyoto targets are simply not being met. These countries speak about funds to finance the reduction of emissions in developing countries, but they did not specify any amounts or where most of the money would come from or how it would be distributed. So that's something to discuss.

How else should rich countries help poorer ones face the problem of global warming?

There's the question of adaptation, in regard to the changes that are now inevitable. Even if we all do everything we should, the world's average temperature will rise, perhaps at least 2.5°C, by the end of the century. With that kind of rise the northeast of Brazil, which is one of the country's poorest and most vulnerable regions, will lose one third of its economy. Then there are coastal areas that are already environmentally and socially vulnerable, for example the low-lying Baixada Fluminense, the northern zone city of Rio, where 3 million people live and where there are already floods. Imagine in 30 years' time, when the sea level has risen 15 or 20 centimeters. So, we need money to adapt to the changes that are going to happen despite efforts (to control global warming).

Are you optimistic?

I see it this way: we are all on an airplane, which is the planet, and this plane is full of holes. It's losing all its fuel, and everyone will be killed. So I, being from a developing country, say that I who have less historic responsibility can continue making little holes because the other guys, the rich countries, made bigger holes in the past. But the problem is that we're all on the same plane. My hole is smaller and I made it more recently, but if I keep on enlarging it, the plane will crash and we'll all die. So my message is for the rich countries but also for the developing countries — Copenhagen is the opportunity that we've got, and we won't have another. ■

About Copenhagen

What is COP-15?

Diplomat-speak for the U.N. conference taking place in Copenhagen, Dec. 7-18. "COP" stands for "Conference of the Parties" — i.e., the 192 countries that have ratified the U.N. Framework Climate Change Convention; "15" signifies the 15th annual get-together.

Why is it so important?

In theory, COP-15 will produce a new treaty to replace the Kyoto Protocol, which expires in 2012.

What might it deliver?

U.N. climate chief Yvo de Boer said he hopes for agreement on four key points: how much rich countries will reduce their greenhouse gas emissions; how much major developing countries will limit the growth of their emissions; how rich countries will help poor countries pay for reducing emissions and adapting to climate change; and how those funds will be managed.

GREEN FIGHTERS

The Amazon is not just rich in fauna and flora. Its history also includes a wealth of weird and wonderful figures: heroes fighting (and often dying) to protect it, people dedicating their skills and time to its survival, and others trying to make their fortunes beneath its canopy... but frequently losing them.

For Brazilians, the greatest "green fighter" of all time was Chico Mendes, a rubber tapper in the northwest state of Acre. Lacking formal schooling, Mendes followed — literally — in the footsteps of his rubber-tapper father as he tramped through the rainforest, learning where the rubber trees were to be found and how to gouge the grooves that collect the latex. But Mendes was also a born leader with a vision of a better world. In 1975, at age 30, he was elected secretary-general of a newly formed rubber tappers' union and led a fight to prevent large landowners from trashing vast tracts of forest. Rubber tappers and their families protected the trees by forming human cordons to block the chain saw gangs. The rubber tappers' fight became part of the incipient environmentalist movement, and they forged links with other forest dwellers, including Indians, nut gatherers, and fishermen.

Representatives from the United Nations visited Mendes to discuss deforestation and the sometimes harmful role of financing from institutions like the World Bank. Gradually the fight gained international prominence, and he was invited to speak to the U.S. Senate. When the World Bank decided to review its lending policy for forest-development programs that led to destruction, Mendes was accused by some Brazilian landowners of undermining the country's progress. He was gunned down three days before Christmas in 1989, aged 44, on the back porch of his house. His life was later filmed by HBO as *The Burning Season*, starring Raul Julia and Sonia Braga.

People fight for the Amazon in various ways. Countless nongovernmental organizations (NGOs) are involved, some focusing specifically on the rainforest, others placing it in a wider global context. Among the latter is the Brazilian Foundation for Sustainable Development, presided over by Israel Klabin. If Mendes was the classic grassroots activist, Klabin is a big-picture guy at the other end of the scale, trying to fit Amazon salvation into global climate plans.

"The tropical forests provide an environmental service to the rest of the planet, so the rest of the planet should put together a fund to avoid deforestation," he said. Klabin has been much involved in discussions about UN-REDD, the United Nation's Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries. Spurring its creation was the realization by the IPCC that deforestation accounts for roughly 20 percent of all greenhouse gas emissions. Scientists, diplomats, and others have debated how best to include "avoided deforestation" into the various carbon-reduction incentive schemes. But giving somebody money for not doing something is a complicated business, and verification is vital. Klabin is skeptical about the likelihood of major multilateral advances in Copenhagen.

Forest Flops

Fordlândia was a spectacular pre-war failure by U.S. automaker Henry Ford to grow rubber trees in a million hectares of the Amazon. After all, they're native to the rainforest, so why not? What Ford didn't know is that rubber trees dotted throughout the forest are safe from blight and bugs. Jammed together in vast plantations, they die.

Ford sold out in 1945, losing US$20 million. In the 1960s and '70s, Daniel K. Ludwig was to lose much more. A self-made shipping billionaire and recluse from Michigan, Ludwig poured an estimated US$1 billion into the 1.6 million-hectare Jari Project to produce pulp for paper, plus rice and beef. However, he faced innumerable problems and threw in the towel in 1981. Jari went bankrupt but is today a profitable producer of sustainable, certified pulp and hardwood.

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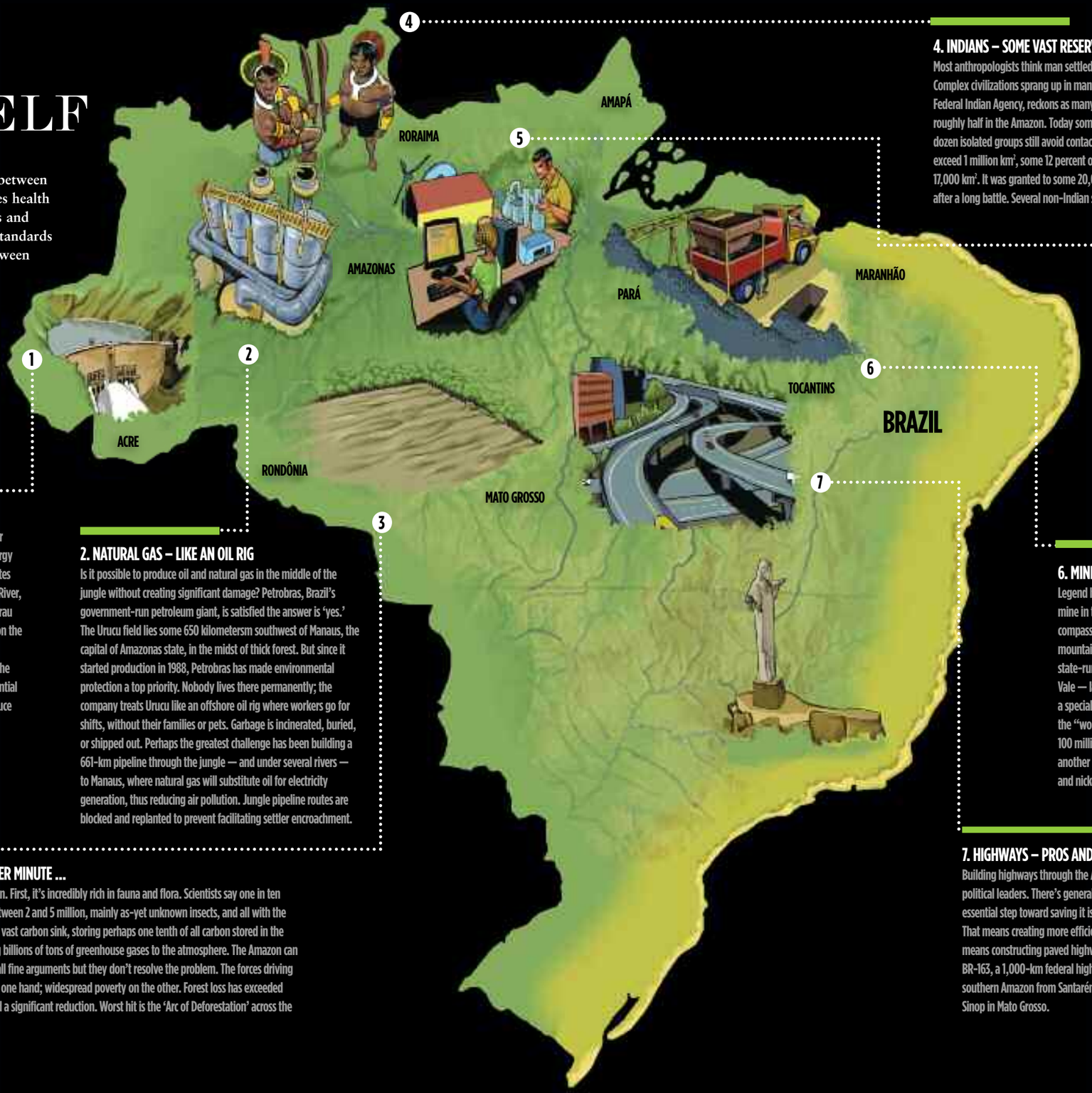
Spotlight on The Amazon

A WORLD UNTO ITSELF

In the Amazon, everything is a trade-off — between preserving Indian cultures and bringing tribes health and education; between the rights of Indians and peasant farmers; between improving living standards and attracting additional destruction; or between developing the Brazilian economy and protecting the global environment. Sometimes these trade-offs are decided by distant planners and law-makers; sometimes they play out on the ground between individuals who may be completely unaware of the global issues involved.



1. HYDRO – SMALLER LAKES

Brazil generates much more of its electricity from giant hydropower stations than most other large countries. This gives it a cleaner energy matrix, with lower CO_2 emissions. But now, most remaining dam sites are in the Amazon. Two giant dams are being built on the Madeira River, the 3,150 megawatt (MW) Santo Antonio dam and the 3,300 MW Jirau dam, and tenders are due soon for the 11,181 MW Belo Monte dam on the Xingu River in the central Amazon – potentially the world's fourth largest. Most of this power will go to big cities on the coast and in the Southeast. In all three cases, the government has reduced the potential reservoir area (thus sacrificing potential energy generation) to reduce the environmental and social impact.

2. NATURAL GAS – LIKE AN OIL RIG

Is it possible to produce oil and natural gas in the middle of the jungle without creating significant damage? Petrobras, Brazil's government-run petroleum giant, is satisfied the answer is 'yes.' The Urucu field lies some 650 kilometersm southwest of Manaus, the capital of Amazonas state, in the midst of thick forest. But since it started production in 1988, Petrobras has made environmental protection a top priority. Nobody lives there permanently; the company treats Urucu like an offshore oil rig where workers go for shifts, without their families or pets. Garbage is incinerated, buried, or shipped out. Perhaps the greatest challenge has been building a 661-km pipeline through the jungle — and under several rivers — to Manaus, where natural gas will substitute oil for electricity generation, thus reducing air pollution. Jungle pipeline routes are blocked and replanted to prevent facilitating settler encroachment.

3. DEFORESTATION – TWO FOOTBALL FIELDS PER MINUTE ...

There are many reasons for not cutting down the Amazon. First, it's incredibly rich in fauna and flora. Scientists say one in ten documented species live there and the total could be between 2 and 5 million, mainly as-yet unknown insects, and all with the potential to yield new medicines. The rainforest is also a vast carbon sink, storing perhaps one tenth of all carbon stored in the Earth's eco-systems. Burn that down and we risk adding billions of tons of greenhouse gases to the atmosphere. The Amazon can also be incredibly, awe-inspiringly beautiful. Those are all fine arguments but they don't resolve the problem. The forces driving deforestation are different: logging and ranching on the one hand; widespread poverty on the other. Forest loss has exceeded 20,000 km² a year, but in 2009 the government reported a significant reduction. Worst hit is the 'Arc of Deforestation' across the southern rim.

4. INDIANS – SOME VAST RESERVATIONS

Most anthropologists think man settled South America around 10 to 12,000 years ago, although some put it earlier. Complex civilizations sprang up in many places, but Indians in the dense Amazon forest remained tribal. Funai, the Federal Indian Agency, reckons as many as 10 million Indians were living in Brazil when the Portuguese arrived in 1500, roughly half in the Amazon. Today some 400,000 still live tribally, mostly in the Amazon, and Funai thinks a few dozen isolated groups still avoid contact with post-Colombian society. Confirmed or claimed Indian reservations exceed 1 million km², some 12 percent of all Brazil. One of the largest, Raposa/Serra do Sol, in the far north, measures 17,000 km². It was granted to some 20,000 Indians, mainly of the Macuxi tribe, by the Supreme Court in May 2009 after a long battle. Several non-Indian settlers were expelled.

5. HIGH-TECH JUNGLE

More than 20 years have gone by since Paul Simon sang of "lasers in the jungle", but even then it was not a prophecy. Some 1,500 km up the Amazon River at Manaus, a city once rich in rubber, there is a tax-free manufacturing zone producing computers and IT equipment, household electronics, motorbikes, chemicals, and a host of other items not normally associated with a rainforest. Set up in 1967, the 'Zona Franca' currently employs around 100,000 people in 450 companies — including many multinationals — that enjoy tax-free importation. Governor Eduardo Braga says Amazonas state has 98 percent of its forest still standing thanks to the 'Zona Franca,' which he calls "by far the largest and most sustainable environmental service that Brazil has had in the past 40 years." Without it the state might have lost 30 or 40 percent of its forest, he says.

6. MINERALS – SUPPLYING THE WORLD

Legend has it that geologists working for U.S. Steel discovered the Carajás mine in the middle of the southeastern Amazon jungle because the magnetic compass of their light plane went crazy while they were flying over the mountain, which was made of almost solid iron. That was in 1967. Brazil's state-run mining company, CVRD — today a privatized global leader called Vale — later took over the claim. Its engineers built a 900-km railroad to a special deepwater port and started producing what the company describes as the "world's highest-quality iron ore." Last year, Carajás exported close to 100 million tons of iron, much of it to Japan and China, with reserves for another 160 years at that pace. Carajás also boasts manganese, gold, copper, and nickel.

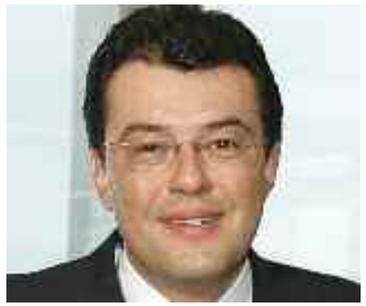
7. HIGHWAYS – PROS AND CONS OF PAVING

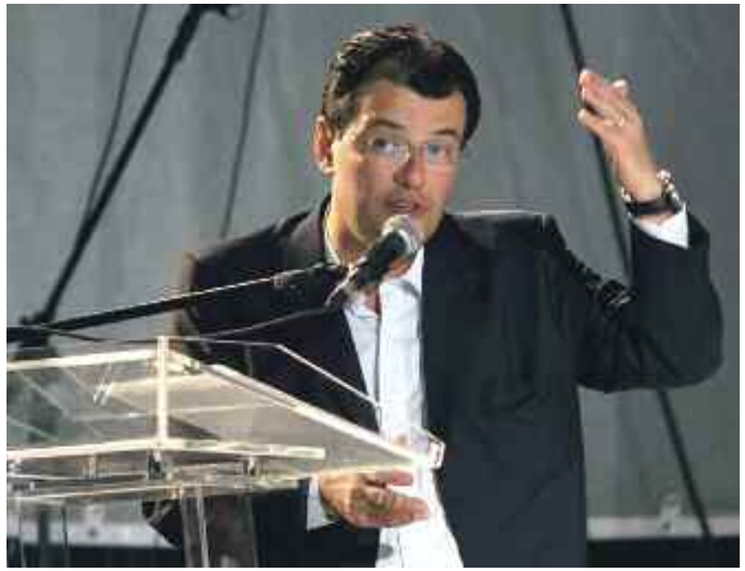
Building highways through the Amazon is one of the most contentious issues facing political leaders. There's general agreement that poverty destroys the forest, so an essential step toward saving it is to improve the living standards of local communities. That means creating more efficient infrastructure, in particular transportation, which means constructing paved highways. One of today's most controversial projects is the BR-163, a 1,000-km federal highway running North-South through the heart of the southern Amazon from Santarém, a major river port, to the farming frontier town of Sinop in Mato Grosso.

Interview

Q&A

Peninsula Press talks with Eduardo Braga, governor of Amazonas





PROVIDING AN ENVIRONMENTAL SERVICE *– Amazonas*

Eduardo Braga, 48, is an electrical engineer and businessman who was elected city councilor in Manaus, the capital of Amazonas state, at the age of 21. He has been active in state and national politics virtually ever since. Braga was elected governor in 2002 and reelected in 2006.

You run Brazil's largest state. It's bigger than Spain, France, and Germany together — bigger even than Alaska. And it's the focus of intense international scrutiny. Do you think the world understands your problems?

Well, it's easy to be an environmentalist when you don't live in the forest. It's pleasant to have a drink, eat some food, write some poetry and speak about a life that you will never live. But when you spend three or four days living in and off the forest, you see how hard it is to be an environmentalist. Only then can you understand how the people who have lived in the Amazon all their lives are so committed to nature. They preserve nature as a normal condition of their lives. They depend on it.

What's a good starting point to understanding the Amazon?

Population density. Around four million people live in my state, roughly half in Manaus and half spread throughout the territory, which may therefore have the lowest density in the world, around 1.2 people per km². This presents a huge challenge to implementing public policies. If we don't use technology as a strategy, then we can't give people opportunities to go to school or to diagnose diseases.

How does the situation of the population relate to deforestation?

We have people in Amazonas state who discuss nanotechnology, while others live without electricity. Some people live in the 22nd century, others in the 18th. How do we balance this? That's the biggest question. For me, the principal drivers of deforestation are poverty and lack of education. The first rule for a human being is to survive. No one cuts down a tree because they're smart or stupid; they cut it down — or not — for economic reasons. So if you tell me that I am prohibited to touch the forest and I must watch my children die of neglected diseases like malaria, dengue, or hepatitis, it will be very difficult for me to understand why. But if you show me that preserving this tree is a good deal for me and for you, then I will keep this forest standing forever.

That's the strategy behind the Forest Allowance?

Right. If people see that the forest will offer new opportunities for them and their children, then we can change the strategy of the state. The world must recognize that those who live here are providing an environmental service. We decided to create the Bolsa Floresta — "Forest Allowance" — to increase the income of people living in native forests (see page 14). Then we saw that we must create a foundation to implement these policies more quickly and easily in local communities spread over 35 protected areas. People must sign a contract with the foundation to stop any additional deforestation in their area, which will be monitored by satellite. By doing this, we can increase their per capita income by 30 percent a year. Then we must create more protected areas. ■

Peninsula Press talks with Ana Júlia Carepa, governor of Pará

ADDING VALUE *– Pará*

Ana Júlia Carepa, 51, has a degree in architecture and was a club-team swimmer in the capital of Pará state, Belém. She worked with community organizations and as a staff employee of Banco do Brasil, where she was a labor activist. Carepa was elected city councilor in 1992, congresswoman in 1994, senator in 2002, and governor in 2006, always for the Workers' Party.

What's your development strategy?

Pará is one of the richest states in Brazil, but we have to add infrastructure to this wealth in order to transform it into opportunities and a better standard of living for the people. This means finishing the locks at the Tucuruí Dam (on the Tocantins River) to allow multi-modal transportation; expanding our ports; and paving federal highways like the Trans-Amazon Highway, for example, and the one linking Santarém with Cuiabá. We're also investing in public housing and the water supply.

Will you focus on mining, agriculture, or other sectors?

This state, like many others, had no real planning. The economy has historically had a single focus, be it rubber, gold, timber, or cattle. We want to implant a new model that takes full advantage of our diversity — including our economic diversity. Our province had the world's greatest mineral deposits but no steel mills; now we'll have one in Marabá. That will add value to our mineral wealth. We will also develop three technology centers, in Marabá, Santarém, and Belém.

Can this be done without damaging the environment?

Combating deforestation isn't just a matter for the police; it also requires alternative approaches to solving the problem. Deforestation is profitable, so we have to offer another profitable activity to fight it. That could be replanting the forest, for example, and restocking degraded forests with native species. I have a program called One Billion Trees. Thus, we are promoting a new development model by adding value to our mineral resources and creating forest wealth rather than destroying it. This opens up various possibilities, for example in the furniture industry.

What are the opportunities for foreign investors?

First, we are upgrading our four existing industrial parks and building a new one in Santarém. We have instituted legislation guaranteeing financial and fiscal incentives for new investments. Better environmental practices, greater job creation, and more technology all help generate a bigger tax break, up to a maximum of 75 percent. ■

Peninsula Press talks with Binho Marques, governor of Acre

RESISTING DEFORESTATION *– Acre*

Binho Marques, 46, holds degrees in history, economic history, business administration, and education. A member of the Workers' Party, he was elected governor of Acre state in 2006 under the slogan "Development with Opportunities for All," promising participative government, sustainable economic development, social inclusion, and better infrastructure.

Acre still has 98 percent of its forest. Why is that?

Statistically we are a small state, producing just 0.2 percent of Brazil's gross domestic product, and by traditional parameters not very important. But we don't think that way; neither did Chico Mendes. He led rubber tappers who stood in front of chain saws to prevent deforestation. The "Arc of Deforestation" was halted before reaching Acre, thanks to the will of our people.

Was it spontaneous?

Oh yes. People who are born in the forest and live their lives there learn to relate to the forest and have a special feeling for it. They believe that it's possible to live well with the forest — to have economic development and a good quality of life while interacting with the Amazon environment.

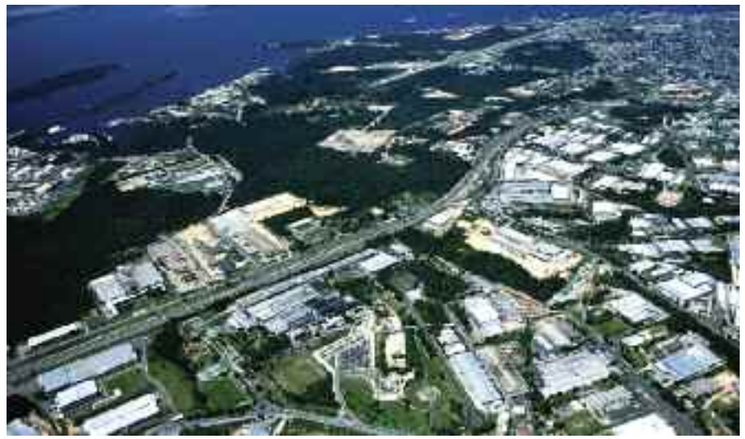
How do you combine economic development with preserving the forest?

We have various interesting projects. There's a condom factory that is the only one in the world using natural latex, and a floor-tile factory using wood from managed forests certified by the Forest Stewardship Council. And here's a good opportunity for a foreign investor: we have 500,000 hectares of public forest that could be included in a large sustainable management project. By 2010, this total will double to 1 million hectares. ■

Economics focus

REGIONAL DEVELOPMENT

One traditional battle for Brazilian planners has been to spread prosperity inland, away from the richer coastal areas. Nowhere was this more needed than in the Amazon, after the collapse of the rubber industry in the early 20th century.



In the 1960s, the federal government set up a tax-free manufacturing zone at Manaus, right in the heart of the rainforest. Some economists have grumbled that the Amazon should focus on natural vocations like ecotourism and sustainable forest production, but local leaders point to a vibrant manufacturing hub that today creates around half a million direct and indirect jobs, billing some US$30 billion a year. Far from being incongruous, they say, this concentration of good jobs has helped save the rainforest because it offers a path out of poverty for thousands of people who might otherwise hack down trees.

What started largely as an assembly location has spawned layers of suppliers. There are for example more than two dozen companies supplying parts to motorcycle manufacturers Harley-Davidson, Honda, Kawasaki, Suzuki, and Yamaha.

Other multinationals installed there include Bic, Electrolux, Essilor, Fuji, Gillette, Kodak, Nokia, Samsung, Sony, Timex, and White Martins, with many reporting above-average productivity. Over time, Manaus has built support infrastructure with five universities, 18 higher-education institutions, and 16 R & D institutes for product development.

Tourism boom

While high-tech industry is driving the Manaus economy, ecotourism is coming up fast. Half a million tourists visited the region last year. Of the 138,000 foreigners, no less than 70 percent were Americans, lured in part by the ease of new direct flights by Delta and TAM from Atlanta and Miami, respectively. And tourism from China has risen tenfold, to almost 11,000 visitors, in the space of five years.

A dozen new hotels are planned, as is the expansion and modernization of the airport. Tourism staff are learning English, French, Spanish, Chinese, and Japanese.

"Nowhere else offers the 'meeting of the waters' (between the Solimões and Negro rivers), 66 different Indian tribes, and a vast rainforest that is 98 percent preserved," said Oreni Braga, president of Amazonas Tur, a state government agency. ■

Q&A

Flávia Grosso

Superintendent of Suframa

What's your biggest challenge?
Transforming the biodiversity of the Amazon into biotechnology and building an industry based on this to create products, jobs, and income while preserving the rainforest.

What stage are you at?
We have the embryonic structure, the Amazon Biotechnology Center (CBA), which was created by the federal government and which we support fully. It's a center for technological innovation using biotechnology to create Amazon products.

How is this progressing?
Well, the CBA isn't something that you can start up overnight; it takes time to get to full speed. The main initial investment has been done; the buildings and the laboratories are all constructed (the CBA has labs for cosmetics, functional foods, phytomedicines, technological support, protein analysis, pharmacodynamics, safety pharmacology, and pre-clinical toxicology of medicines). We are now working on the management model for the center, but we already have scientists and researchers working there.

How does it relate to existing sectors in Manaus?
One thing we are looking at is convergence between this new biotechnology and what we already have in terms of high-tech companies, for example in the field of micro electronics. We have to forge a convergence to create micro biotechnology.

GREEN LENDING

Abidias José de Sousa Junior

President, Banco da Amazônia

The Banco da Amazônia, or the Amazon Bank, is a federal institution that works closely with state governments to promote economic and social development in their regions, where it provides more than 60 percent of all long-term credit.

A career employee of the federally owned Banco do Brasil, Abidias José de Sousa Junior was appointed to head Banco da Amazônia in 2007 by President Luiz Inácio Lula da Silva. He took office describing his priorities as, on the one hand, boosting the "conventional" lending and operations of the bank, while on the other increasing lending to small and even informal companies and imposing sustainability criteria on the bank's lending portfolio going forward.

One key goal has been to develop a system of sustainable micro finance for low-income entrepreneurs in both rural and urban areas and to make working capital available to small companies, including those in the informal economy.

"I want all our branches and units to work within a process of sustainability – in other words, for all credit operations to be analyzed, taking into account the question of the environment," de Sousa said. However, he added that this would be done within the framework of an efficient bank targeted to make a return of 12 percent a year on net assets.

By this year, the bank was able to tell federal authorities in Acre state that it had implemented rules to require environmental compliance certificates from all would-be borrowers. The bank announced it would form partnerships with state-level environmental agencies to speed up the emission of such certificates, thus helping make the lending process both environmentally sound and operationally efficient.

Small rural businesses will gain priority for loans when they sign up for programs promoting agriculture that does not involve burning. The bank said it would negotiate agreements with federal agencies to use existing satellite surveillance of the Amazon region to help monitor compliance by its borrowers.

Credit for family farming is another bank priority. Using federal government credit lines, the Banco da Amazônia exceeded its target by 62 percent in 2008, lending no less than R$2.2 billion to small producers in the region.

The bank has also sought to boost environmental awareness among rural communities with a series of activities dubbed the "Ecological Gymkhana." Related events have included tree planting, speeches, workshops, and renovation of public spaces.

Fundação Amazonas Sustentável

The Foundation – Key Questions

How is FAS funded?
Two initial endowments, of roughly US$12.4 million, were made by the state government and Bradesco, a major private bank, in 2007. Coca-Cola put up a similar amount this year, and there are partnerships with various private companies. The fund target is US$50 million. FAS spends investment income, not capital.

How is FAS managed?
The board comprises three members from each of four sectors: business, government, academia, and NGOs. Professional staff includes technicians, scientists, and others.

A NEW MODEL FOR SUSTAINABILITY?

Forest dwellers can make money by cutting down trees. So what about paying to keep them standing? One constant doubt for distant donors is ensuring money gets to where it's needed, and effectively makes a difference. That's the goal of FAS.

Amazonas state is sponsoring a new kind of public-private foundation that could provide a model to help preserve the rainforest.

"The idea was to build a system that could survive political changes," said businessman Luiz Fernando Furlan, who chairs the Fundação Amazonas Sustentável (FAS), or Sustainable Amazonas Foundation.

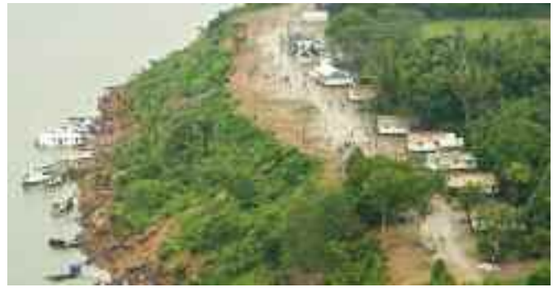
FAS receives donations, invests them, and channels the income into forest communities in preservation areas, always seeking ways that directly leverage preservation. It has been granted a 20-year concession from the state to market sustainable forest foods produced by these communities, with all the benefits reverting to the forest dwellers.

The foundation's most important program is called Bolsa Floresta, or Forest Allowance, which has four components. The main one, called Family Forest Allowance, offers each head of family, preferably the mother, the equivalent of US$50 a month, provided the family preserves the forest where they live. Another program element promotes grassroots institutional building: Communities receive US$5 per family a month to organize and strengthen their local associations.

A third component of the plan offers each community an average of US$2,000 a year to support sustainable production of anything that doesn't damage the forest, including nuts, fish, fruit, honey, etc. Finally, there's a similar amount available to promote education, health, communications, and transportation in the communities.

"The foundation is a serious and valid initiative, albeit still experimental, but it could be a contribution to a problem that affects the whole world. And we hope it's an example that can be multiplied," Furlan said.

In addition to endowments from the state government, Bradesco Bank, and Coca-Cola, FAS is negotiating with private companies to sponsor specific projects. Marriott Hotels has adopted the Juma sustainable development reserve, an area of some 500,000 hectares where some 2,500 people live. The company is pledging US$500,000 annally for a period of four years through four years via FAS to promote employment, education, and health care in exchange for a community commitment to preserve the forest. Marriott also invites hotel guests to add US$1 a night to their bill, which goes directly to the project.



Another private company, Yamamay of Italy, has put up €50,000 to build a community school in the Uatumã reserve.

FAS is also negotiating non-cash partnerships, for example with a phone company and a hardware supplier to bring telecommunications to isolated communities. "Communications are essential to questions like health and education," said Virgilio Viana, director-general of the foundation. This venture, together with the various elements of the Forest Allowance program, could soon see isolated communities hooked up to the Internet and talking to each other — and the world — by Voice-Over Internet Protocol tecnologies such as Skype. ■

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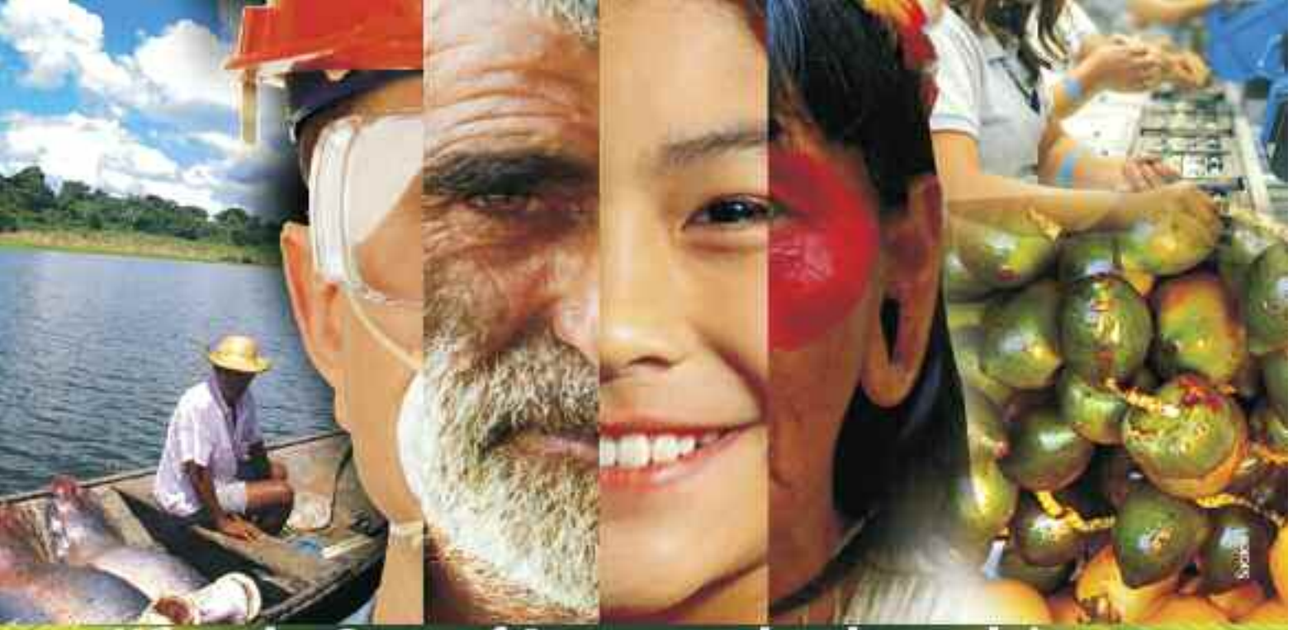
"Bolsa Floresta" at a glance

- **Purpose?** Paying families who live in the forest to protect it, not cut it down.
- **Where?** Nature reserves in Amazonas state (western Amazon).
- **How many people?** Some 5,800 inhabitants, as of December 2008.
- **How much is protected?** Roughly 10 million hectares in 13 conservation units.
- **What does that look like?** Roughly the same as South Korea, Iceland, or a smallish U.S. state like Virginia.
- **What's the potential?** Amazonas nature reserves currently total 17 million hectares, but the government wants to create more.



What the State of Amazonas has been doing to preserve the forest is as vital as the air you breathe!

The government of the State of Amazonas is looking after those who preserve the mega-biodiversity of our forest: the people of Amazonas. By creating environmentally friendly products and services, generating wealth, improving quality of life and conserving 98% of our green territory, the State of Amazonas has reduced the deforestation rate by 70% over the last six years and increased the amount of natural protected areas by 160%. These figures suggest that the sustainable development model is on the right path: investments in education, healthcare, infrastructure and technology demonstrate respect for the rainforest people, our greatest asset.

GREEN FREE ZONE

The fruits of eco-friendly growth.

The sustainable development program of the State of Amazonas, which benefits over 500 thousand people, is called the Green Free Zone. This program improves the quality of life of rural populations and through good management, social equality and economic viability, is able to create production systems beneficial to forestry, fishing and agriculture alike. This has also become a motor for environmentally-friendly tourism.

CLIMATE CHANGE LAW

We are doing all we can to improve life on the planet.

Proving this commitment, the State of Amazonas was the first in Brazil to enact the Climate Change, Environmental Conservation and Sustainable Development Law. The law, dubbed CECLIMA, made possible the foundation of the first Government Center specialized in implementing public policies on climate change and environmental services. The forest in Amazonas plays a significant role in maintaining the balance of the climate around the world. Subsequently, this law affirms Amazonas' commitment to an environmentally healthy planet.

A SUSTAINABLE AMAZONAS

Getting people ready to face the future.

By engaging in environmentally-responsible development, the Amazonas State Government is seeking to safeguard the prosperity of future generations. Macro zoning in Amazonas is guaranteeing the sustainability of mineral industries such as oil and gas. A shift of Amazonas' energy matrix from electric power to natural gas will be accessible to the general public within a few months thanks to the near-completion of the Coari-Manaus pipeline.

SCHOOL LUNCH AND FURNITURE

We treat our students with respect.

The School Lunch Regional Program (PREME) provides regional products to all state schools and a large number of municipal schools. The School Furniture Regional Program (PROMOVE) ended the importation of chairs and opened new markets for furniture manufacturers in the interior of Amazonas, generating jobs and income.

STRENGTHENING PRODUCTION CHAINS

We are reaping what we have sown.

The production chains of rubber, nuts, vegetal oils, timber, jute and malva fibers, all of which are leading Brazilian products, continue to increase yearly. The production of rice, corn and beans also continues to progress with Government-supported oversight from seed to harvest.

GENERAL OFFICE FOR INDIGENOUS PEOPLE

Not just a gift, but a milestone towards a great future.

The creation of this department shows the recognition and the commitment of the State Government to improving the quality of life of indigenous people by respecting and preserving their cultural and historical values. Our Government has been working to allow more than 120.000 indigenous people in Amazonas to live with dignity by taking the fundamental step of supporting them through their struggles and achievements.

BOLSA FLORESTA PROGRAM

Acknowledging the guardians of the forest.

Created over a year ago, the Bolsa Floresta is the first Brazilian program that pays more than 5,346 families located within 14 Conservation Units in Amazonas for the environmental services they are rendering to the world. The families benefiting from this program take on the responsibility of helping prevent illegal burning or harvesting of designated forest regions.

AMAZONAS