

First aid for the Amazon

The world's richest nations want to save the rainforests. This time they are putting their money on research and modernisation

Fred Pearce

IT WAS Helmut Kohl's idea. In the summer of 1990, the German chancellor proposed to his fellow Western leaders at a Group of Seven summit in Houston a plan to save the world's rainforests. They should start, he said, with the Brazilian Amazon.

Other leaders, such as George Bush and Margaret Thatcher, were taken aback, but could hardly veto the idea at a time when they publicly shared the worldwide concern about the destruction of the Amazon rainforest. "It was sprung on us," remembers one of the senior European civil servants. "Kohl wanted to be seen to be green. But the project's scope and funding were not discussed at the summit, and there had been no prior discussion with the Brazilian government."

The newly elected Brazilian president Fernando Collor de Mello ignored local governments within Brazilian rainforest states—such as Pará and Amazonia, who claimed that the international community wanted to take control of the Amazon—and began talks with officials from the World Bank and the European Community to flesh out the grand vision, known as the Pilot Project for the Brazilian Amazon.

Nobody thought much of Brazil's shopping list of projects, which carried a price tag of \$1.5 billion. "The Brazilians treated the project as a blank cheque. They chucked everything into the pot," said one World Bank official involved. Some ideas were blatantly destructive of forests. Conservation proposals were uncosted and uncoordinated with development strategies. So last summer, with London and Washington still unwilling to match German offers to fund the project, the World Bank effectively grabbed the reins. It drew up its own proposals, which involve a tight hand on the purse strings, through a rainforest trust to be set up under the umbrella of the new Global Environment Facility—the bank's response to the criticism that many of its development projects have been environmentally destructive. The plan was agreed by the Western donors and Brazil at a meeting in Geneva in early December (see This Week, 21/28 December 1991). Cash commitments reached \$250 million, the amount the bank said it needed to start the project.

The project is a pioneering attempt to marry Brazil's desire for economic development with an international desire to save large parts of the world's largest rainforest, for their biological wealth and presumed role in maintaining the world's weather. But it is also a model for saving other forests and other crucial ecosystems around the planet. As Roberto Smeraldi from Friends of the Earth International and author of a critique of the programme, explains: "Months before the UN's Earth Summit in Rio, this is a critical test of the political will of governments to solve global environmental problems."

But how do you stop the destruction of a rainforest as large as Western Europe? The programme has four aims.



Native groups, such as the Kayapo, are the true scientists of the forests

The first is to "conserve biodiversity and indigenous areas", where tribal groups still live largely in harmony with nature. This will be done by creating and policing national parks and reserves that could eventually cover more than a quarter of the forested region. Demarcation of protected land will take up around a quarter of project funds.

Another aim is to "consolidate environmental policy changes and strengthen implementing institutions". This will include economic and ecological zoning of the forests.

The programme should also "develop scientific knowledge and applied technologies for sustainable development". This will include everything from researching rainforest ecosystems to investigating Western markets for fruits, nuts and other forest products and developing methods of logging forests without destroying them.

Finally the scheme should "build support for environmentally benign development", which could mean anything.

There has never been anything inevitable about the rate of destruction of the Amazon rainforest. Thirty years of invasion, which culminated in the orgy of forest burning by mostly poor colonists in the late 1980s, followed a deliberate government policy, devised by military rulers in the early 1960s. This encouraged migration into the Amazon by building roads and offering generous tax and other incentives to both industrialists and land speculators. Few spoke then of saving the rainforest; most wanted to "open up the jungle" with axe and fire.

In its report presented to the meeting in Geneva in December, the World Bank said: "An expanding Amazonian road network ensured the availability of abundant, cheap land which in turn eroded the potential profitability of sustainable agriculture and silviculture." Poor soils completed the carnage. As the natural fertility of their soils declined, farmers simply moved on. Why bother to buy fertiliser when you can simply burn the forest to clear land down the road and start again?

The World Bank helped to fund the process by backing, among other things, the Polonoeste project in the 1980s, which paved Highway 364 in Rondônia, a state in Western Brazil. This encouraged migrants and helped them to market their produce. In the past decade, the rush to make money from the Amazon basin has destroyed 12 per cent of the forest, according to satellite images.

The driving forces of road building, tax concessions and the push to migrate are largely gone today because the bank burned its fingers and the Brazilian government ran out of cash and credit. The bank now sees the time as "propitious" for conservation. It hopes that the forces of law, nature conservation and rational planning can now penetrate the jungle highways as freely as outlaw colonists. The danger is that, after being kick-started by government, the "opening up" of the Amazon may be unstoppable.



*Can researchers find ways to
make money from the forests
that do not destroy them?*

Brazil already has the embryonic structure to police the Amazon—the conservation bodies, the maps of intended national parks, the environmental laws, the research centres. What it lacks, says the bank, is cash and expertise to do the job. A key phrase in the project plans is “institutional strengthening” for bodies such as IBAMA, the main national environmental agency, and FUNAI, which oversees local Indian affairs.

The first and most obvious job will be to beef up national parks. The World Bank wants to invest in five national parks (see map) based in Amazonia. Jau, Chapada dos Guimaraes, Guapore and Jari Ecological Station within the first six months of the project. These, it says, need urgent protection from “squatters, loggers and miners”. Within three years, 15 such parks would receive extra protection, through more and better trained park rangers, better demarcation of boundaries and so on.

Most of the rainforest is inhabited by Brazilian Indians and the many generations of colonists who have arrived here over the past century. (There is a sizeable community of Japanese farmers, for instance.) Many of the forest dwellers still live in the forest without destroying it. So a second task is to bolster these uses, or as the bank puts it: “... as an alternative to destructive activities such as cattle ranching, logging or colonisation ... to develop appropriate



Logging in the rainforest could be made sustainable—in theory

sustainable economic and ecological management models”. In this ungainly statement probably lies the key to success or failure of the entire project.

The most publicised of these management models are the new extractive reserves—the legacy of the rubber tappers’ leader Chico Mendes, who was assassinated at his home in the far western state of Acre in 1989. There are so far four such reserves, set up by the government in the past two years as stretches of forest communally owned by communities of rubber tappers and Brazil nut growers. Most of these people, like the Mendes family, moved into the forests early this century as employees of large landowners. The reserves were established, as the bank puts it, to help forest dwellers to “defend their homes and resource base against often violent encroachment” from cattle ranchers and others. The largest, the Chico Mendes Extractive Reserve, covers almost a million hectares, half the size of Wales.

The Amazon project calls for the extension of the decrees establishing the four pioneer reserves, each of which lapses this year, and the creation of 20 more in the next three years. But the bank warns: “... It is a mistake to think of extractive reserves as a panacea ... The gatherers are currently producing only a marginal income.” The communities and their outside supporters want a system of guaranteed prices for



Western money will demarcate native territories ...



... and provide new employment for the fire-raisers

Practical targets for spending

SCIENCE, says the World Bank, is the key to saving the Amazon rainforest. It intends to spend more than half of the proposed \$350 million budget for its pilot programme on research and monitoring in the rainforest. Most of the money will go to two research centres—the National Institute of Amazon Studies at Manaus, the largest city in the forest, and the Goeldi Museum at Belém, on the coast.

"Conditions in these well-established centres have recently deteriorated dramatically," says the bank, "due to a generalised lack of funds." Scientists have no photocopiers, classes at Goeldi are held in a herbarium thick with pesticide fumes, zoological specimens are kept in mayonnaise jars with rusting tops and plant specimens rot in old wooden containers. Subscriptions to most journals have lapsed, computers are rare, phone lines must be booked days in advance, salaries for senior staff have been halved and there are 300 unfilled vacancies.

Over the next two years, the bank wants to spend \$130 million on these two centres, topping up salaries, creating endowed chairs to attract top scientists, installing equipment and setting up training programmes. It will be the largest single tranche of cash in the early years of the project.

More money is earmarked for specific research projects. Ecologists will delve into the myriad ecosystems of the jungle and research ways to reclaim degraded land; anthropologists will investigate how to better the lot of Brazilian Indians without destroying their way of life; economists aim to improve the economic productivity of the forests.

Other teams will measure the exchange of heat, carbon dioxide and water between the forest canopy and the air above. These data will help scientists to assess whether the loss of the forest will exacerbate the greenhouse effect, heat up the tropics or cause drought in countries far away. Indeed, the whole rationale for funding such studies out of international coffers is that their results are likely to be of global, rather than just local, relevance.

Officials at Britain's Overseas Development Administration anticipate a strong contribution from British science that will

build on the Memorandum of Understanding signed in 1989 between the Brazilian government and the then minister for overseas development, Chris Patten. So far, British projects in the Amazon have concentrated on climate research and on ecological studies of the flooded forest of Combu Island near Belém.

New projects will investigate the economic value of aromatic forest plants as medicines and food flavouring and, more controversially, the feasibility of sustainable logging in the Tapajos forest in Pará state. Most tropical ecologists remain sceptical about sustainable timber extrac-



Mahogany seedlings could regenerate the forest

Mark Edwards/Still Pictures

tion, which, as the World Bank notes in its report, is "still an unproven concept".

The British are keen to try to harness local expertise as much in the fields and forests of the Amazon as in the laboratories, says Patten's successor, Lynda Chalker. She told the Royal Geographical Society last May: "We must build on the considerable knowledge that local communities have of their environment—after all, they have been managing them for a long time."

Chalker spoke of a farmer she met near Belém who "had a remarkable range of skills ranging from the construction of shrimp traps from palm fronds to the harvesting and processing of the fruits of the acai palms. We must not lose this knowledge but build on it."

But will the current World Bank plan, with its emphasis on outside scientists and

on funding research into "replicable" projects, tap this local expertise? One way to ensure at least some involvement of the local communities would be to help fund a research centre and university course set up by the Union of Indian Nations at the Catholic University in Goiás, Mato Grosso. The aim of the centre, says the union's national coordinator Ailton Krenak, is to assemble in written form the accumulated expertise in biology and native law of the Indian communities throughout the forests and surrounding grasslands, and to find the elements of Western technology that can help them. They want, for instance, to improve their orchards and animal husbandry and to develop simple food processing plants—for cracking nut shells, peeling fruit, extracting seeds and milling grain.

Some Western voluntary groups are keen to back such small-scale local projects. In Britain, the Gaia Foundation has funded the Jaburu regeneration project, the first project of the Indian Research Centre. Through this, the Xavante people hope to combine economic development and ecological regeneration on land to which they returned after the departure of loggers and cattle ranchers, who had cleared the timber and exhausted the soils in the mid-1980s. The project involves breeding, in captivity, wild animals such as pigs, and harvesting and processing fruits, using equipment supplied by the Indian Research Centre.

The starting point for their research is not Western technology or expertise, but the local shaman (medicine man). As the Gaia Foundation puts it, the shaman "guided the meetings with this dream... this main concern was that his people were losing touch with the laws of the forest and starting to think like the white man—believing that development means destroying the forest for cash." One of the outstanding questions for the World Bank and the European Community is whether such projects, conceived and executed by local people using their own beliefs and knowledge, can find a place within the Amazon project.

It is a long way from a Group of Seven Summit to a shaman's hut in the rainforest—but it may be the only route to saving the rainforests.

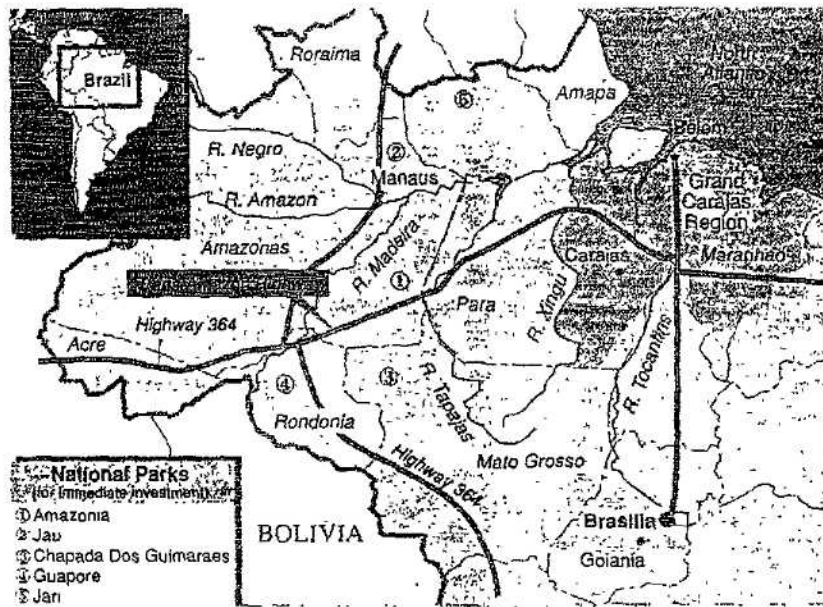
products of extractive reserves. But the bank instead calls for research into ways of boosting incomes. That means looking for new jungle products such as medicinal plants and natural vegetable oils—balms for the Amazon economy as well as the customers of Body Shops round the world.

It also means investing in small factories to process produce in the forests and activities ranging from "eco-tourism" to alligator ranches and heart-of-palm plantations. The bank says that it wants to concentrate on finding money-making schemes that can be used throughout the Amazon.

Currently, extractive reserves meet the bank's test of

ecological but not of economic sustainability. "These products and technologies emerged in the context of small-scale, low-density, non-market societies and often require adaptation to dynamic market economies." The question is: can this be done without bringing a new era of destruction in the forests?

Many, including Western environmentalists, believe that the involvement of the World Bank and "dynamic market economies" could be the kiss of death for extractive reserves. A report by Friends of the Earth International last summer warned of the risks that middle men could gain control of rubber produced on commercialised extractive reserves. The



Roads have brought destruction to the Amazon region. But could they now bring in a new wave of scientists and traders dedicated to preserving the forests?

bank itself admits that "there is some question as to whether erecting financial and institutional and organisational machinery, such as proposed here, might erode the independence and self-sufficiency of this unique movement . . ."

Also living in the jungle are the indigenous Brazilian Indian communities. The largest community, the Yanomami, was recently offered its own reservation by President Collor de Mello after a 21-year struggle (see This Week, 30 November 1991). In many places, notes the bank, "the indigenous reservations tend to be better protected from environmental degradation than those under the protection of the government environmental agencies". By 1994, according to the current Brazilian constitution, all reservations should be bounded by concrete markers at 200-metre intervals round their borders. To date, however, there has been little or no progress due to a lack of resources. The World Bank wants to change this by funding the demarcation of all reserves, from the fishing islands along the Rio Negro in the west to the lands of the Poturu in Pará state. It is only five years since the Poturu were first contacted by the New Tribes Missionaries, yet their lands are now threatened with invasion.

One of the most controversial features of the pilot project is the rehabilitation of abandoned former forest land—the huge stretches of former mines and ranches and land left for dead by timber companies and cattle ranchers. "Rehabilitation is often thought of as restoring an area of land to its original conditions," says the bank's report. "However, this solution is rarely feasible." Often, it says, rehabilitation will mean simply restoring a cover of vegetation to eroding soils. And here is where alarm bells begin to ring.

The Brazilian government wants to see "rehabilitation" money put into planting former natural forest with eucalyptus trees. Through successive drafts of the project, Brazil has pushed for the inclusion of a large eucalyptus plantation on land in the Grand Carajás region. This huge area, roughly a tenth of the entire Amazon basin, has been largely stripped in recent years to provide charcoal production and pulpwood for cellulose manufacture.

Brazil says that the plantations will provide an alternative to chopping down natural forest, but environmentalists say they will encourage industry and bring pollution and more colonists in their wake. Last summer, Brazil was persuaded by

Western governments to withdraw the proposal—at least as a scheme deserving the support of a conservation project. But by December it had quietly reappeared. While environmentalists were boasting of the final "removal of the Carajás plantations scheme", the small print of the bank report noted that "rehabilitation of degraded areas in the Carajás region" was "being considered by the government of Brazil for inclusion in the pilot programme". Civil servants close to the negotiations said that the plantation project was "back in".

Perhaps the test for the project will be in how the detailed economic and ecological zoning of the Amazon is carried out. Much of the biological diversity resides in a few core areas. Likewise the heartlands of the Brazilian Indians and other identifiable groups, in theory at least, may cover only a quarter of the region. The key question is what happens to the rest of the forest.

Will it be handed over to the miners and cattle ranchers or set aside for the new extractive reserves and other benign uses? One World Bank adviser, Dennis Mahare, argues that the majority of the land should

be held "in perpetuity as forest reserves, closed to all development or as sites for environmentally benign activities such as rubber tapping and Brazil nut gathering, tourism or sustained-yield logging." But most environmentalists are profoundly pessimistic. The radical World Rainforest Movement warns that once the areas zoned for industry and agriculture are exhausted, "it is almost inevitable that 'protected areas' will be encroached upon". It adds that zoning does nothing to address the social and political forces that lie behind forest destruction. Indeed it is a policy that is intended to allow the "growth-oriented development programmes that are at the root of deforestation to continue".

For these radicals the World Bank's vision of environmentally benign economic development of the Amazon is a recipe for further destruction. "So long as economic growth remains the object of our economic activities, the tropical forests will always be under the axe."

Despite these doubts, a successful beginning to the project will boost support for the UN Earth Summit. Negotiations in advance of the summit are currently mired in disputes between rich nations—who want certain global resources such as rainforests protected—and the poor nations, who want economic development. The poor nations lay global troubles at the door of the rich, and insist that if they want to mitigate the damage they have done by, for instance, preserving rainforests they must stand the bill.

Much hangs on the success of the collaboration between the Group of Seven governments and Brazil in the Amazon rain forest. It will, as the bank says, "provide an important example of international cooperation in support of a global objective that will benefit the discussions taking place in the negotiations of conventions on biodiversity and climate change"—not to mention a proposed global agreement on saving rainforests.

In the case of the Amazon rainforest, the rich countries have conceded that the rest of the world has an interest and a duty to invest in saving it. As the bank report notes: "Preservation of biodiversity, reduction in carbon emissions and new knowledge about the sustainable activities in tropical rainforests represent benefits [from the pilot programme] that are global in scope and justify financial transfers from the international community to Brazil." Come Rio in June, the rest of the world may argue that what goes for Brazil should go for them, too.