
It's a Jungle Out There

How Brazil Could Save the Rainforest

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Brazil nut tree, Brazil. (Marco Simola / Center for International Forestry Research / Flickr)

Brazil-watchers preoccupied with the rocky run-up to the World Cup may have missed a recent move as smart and graceful as any you'll see on a soccer pitch -- one that sealed a huge win not just for Brazilians but for everyone on Earth.

On May 21, the Brazilian government and its partners secured financing for the Amazon Region Protected Areas, or ARPA. This project is the largest tropical forest conservation effort in history; at 150 million acres, it will preserve an area three times larger than all of the U.S. national parks combined. Further, with innovative funding from across several countries and sectors, ARPA could become the first effort to permanently protect these vast swaths of rainforest, of which an area the size of Afghanistan has been destroyed since 1970.

The story begins in 1998, when Brazilian president Fernando Henrique Cardoso pledged to triple the size of the Brazilian Amazon under protection. Four years later, a partnership of Brazil, the World Bank, Global Environment Facility, the Gordon and Betty Moore Foundation, and World Wildlife Fund (of which I am president) officially launched ARPA to bring Cardoso's vision to life. The goal: to secure permanent financing for a system of well-managed parks and reserves that would conserve the natural richness of the Brazilian Amazon and serve as natural boundaries against indiscriminate forest-clearing.

Years of rancorous debate followed, with opposition coming largely from logging and large-scale commercial agricultural interests. But Cardoso and his successor, Luiz Inácio Lula da Silva, pushed forward, adding more protected land to the reserves, piece by piece. For his part,

in 2002 Cardoso established Tumucumaque Mountains National Park, a dramatic and pristine area nearly as large as Switzerland that is home to multiple threatened species. In 2005, Lula put an end to deforestation and sometimes bloody land disputes in the state of Para by creating Terra do Meio Ecological Station and Serra do Pardo National Park, which make up more than 9.1 million contiguous acres connecting savannah ecosystems in the south to the rainforests of the central Amazon. By 2011, ARPA included almost 100 protected areas covering 128 million acres.

Thanks in part to their efforts, deforestation rates dropped by 75 percent between 2000 and 2012, with ARPA contributing significantly to that decline. Given that deforestation and forest degradation account for roughly 15 percent of annual CO₂ emissions, Brazil's substantial reduction in deforestation made it a world leader in fighting climate change.

But something was still missing: permanent funding to maintain every square mile. In a country where challenges to the protected status of conservation areas are relentless and budgeting for the operation of parks and reserves is often a luxury, conservation projects usually rely on hand-to-mouth funding. But given its massive scale and grand ambitions, ARPA needed long-term financial stability.

To provide it, ARPA's partners -- which, by this point, also included the Brazilian Biodiversity Fund, the governments of Norway and Germany, the United States' Linden Trust for Conservation, and many others -- took a page from Wall Street's playbook: a means of funding known as project finance. This approach is usually reserved for complex, expensive private projects such as power plants. Instead of the dollar-by-dollar strategy of traditional conservation fundraising, project finance favors an all-or-nothing closing, in which all funders bring their money to the table at once, and only when all the pieces of the project are in place. This includes a comprehensive financial plan, commitments for complete funding, and agreement by all stakeholders to the conditions necessary for success. In private-sector deals, this strategy appeals to funders because, by ironing out details before a single dollar is invested, it eliminates the risk that any funder will take a loss on a partly baked project that could subsequently fall apart. The strategy was equally effective for ARPA, attracting funders that otherwise may have been reluctant. The result? Commitments totaling \$215 million -- an exceptionally high amount for a conservation project.

The closing -- the simultaneous depositing of those funds -- is what Brazil's leadership and its partners announced on May 21. The money now resides in a transition fund and will be paid out for ARPA's administration over 25 years, based on Brazil meeting certain conditions and achieving certain milestones. Among them: benchmark staffing levels, budget execution in ARPA-protected areas, and provision of appropriate financial reports and audits. Over that same time frame, Brazil will gradually increase its own contributions to ARPA's funding, with the intention of establishing permanent financing just as money in the transition fund draws down.

FUNDAMENTAL FOREST

The importance of preserving ARPA lands in perpetuity cannot be overstated. Locally, regionally, and globally, humans depend on the economic and ecological "services" the Amazon provides: a steady supply of freshwater, including almost 20 percent of the world's river water; timber provision; disease treatments; plant pollination; recreation and tourism; and more. For those of us outside South America, the most critical of these services are global climate regulation and carbon sequestration. Amazon forests play a hugely important role in both. They influence rainfall and weather patterns throughout the Americas and beyond. And they compose a mammoth carbon sink, holding 90 to 140 billion tons of the element. Releasing even a portion of that carbon could accelerate global warming significantly; releasing all of it could be catastrophic. ARPA will help make sure the carbon stays put. One study estimates that ARPA will help Brazil avoid emitting at least 1.4 billion tons of carbon into the atmosphere by 2050. In cap-and-trade terms, assuming a conservative price of \$5 per ton, those emissions would be worth \$7 billion in offsets by 2050. Under ARPA, they'll be avoided at a cost of less than a dollar per ton.

Then there is the Amazon's celebrated and unparalleled biodiversity, another key ingredient of life on Earth as we know it. One in ten of the planet's known species live in the region. Among them: 40,000 species of plants, 3,000 species of freshwater fish, more than 375 types of reptiles, and 2.5 million insect species. When people imagine the most exotic creatures on Earth, they think of Amazon residents such as toucans, jaguars, poison dart frogs, pink dolphins, white-

lipped peccaries, and rainbow-hued macaws. The sheer vastness of biodiversity under the forest's great green canopy is staggering. And many Amazon species are still, in the language of taxonomists, "undescribed," meaning we know they're there, but we don't yet know much else. ARPA preserves an enormous portion of their habitat and helps give these species a fighting chance.

And of course, the Amazon is an irreplaceable home to people, some 30 million, including 350 ethnic groups and indigenous tribes that have called the region home for millennia. These people fight for the Amazon as a homeland. And many have been essential collaborators in the development of ARPA and its land-use policies. One distinguishing aspect of ARPA is that more than half of its protected areas are classified as "sustainable use" lands, where residents can harvest Brazil nuts, rubber, acai, and other natural resources.

For all that ARPA accomplishes, though, its greatest power may lie in the idea at its center: permanently protecting an entire forest park system through multiple funders brought together in a single closing. This is a model that is replicable and worthy of study by other nations. A similar approach has already been successfully used in smaller projects in Costa Rica and Canada. The ARPA model could also work in Peru and Bhutan, where the viability of ecological systems also hinges on the permanent preservation of large tracts. ARPA's financing model dramatically expands the capabilities of any country pursuing large-scale, long-term conservation. And large-scale, long-term conservation is what will prevent profound and irreversible environmental disruption. Without it, we are likely to one day inhabit a planet whose natural areas will be little more than curios -- disconnected, biologically impoverished reserves that people will visit like museums to see an approximation of what the world used to look like.

With the ARPA closing, Brazil has just concluded a 16-year journey to avoid the planet's museumification. Now a different journey begins. Brazil and its partners will have to continue to fend off the Amazon's familiar nemeses. Brazilians are not of one mind about conservation, and destructive logging and agricultural interests have many champions in the government. Still, because of ARPA, a portion of the Amazon the size of one and a half Californias is now more secure than at any time since the Industrial Revolution. With all due respect to futbolistas everywhere, ARPA is Brazil's great gift to the world. And for that, it deserves an Amazon-sized *obrigado*.
