EDF ENVIRONMENTAL DEFENSE FUND®

Finding the ways that work

Defender of the rainforest

By: Shanti Menon

Dr. Stephan Schwartzman, or, *kwaakriti* (spider monkey) to the Panará.

The Amazon rainforest is roughly the size of the continental U.S west of the Mississippi. More than half of this immense, carbon-soaking climate stabilizer lies within the borders of Brazil, where land-grabbing and deforestation now has an active supporter in President Jair Bolsonaro. EDF's senior director of tropical forest policy, Dr. Steve Schwartzman, has worked in Brazil for decades to ensure that the Amazon and its people survive and thrive. His pioneering efforts to make tropical forests worth more alive than dead are gaining global traction as an efficient way to combat deforestation, reduce climate pollution and protect Indigenous rainforest communities.

Steve's first introduction to the Amazon came as a graduate student in anthropology, when he stumbled upon a life-changing opportunity to conduct field work with the Panará, an isolated tribe recently overrun by Brazil's 20th century Amazon frontier and removed from their traditional land to an Indigenous reserve. "I was a young, alienated, middle-class kid from D.C. who wanted to get as far away as possible from his own culture," he says. "When my advisor told me about the Panará, it sounded like a good bet."

Steve lived with the tribe for a year and a half, living in a thatch-roofed house, sleeping in a hammock and navigating between rivers of fire ants. He learned their

unwritten language and developed a close friendship with their leader, Krentoma, as the chief struggled to maintain his tribe's identity and existence in the face of encroachment on their traditional lands. Getting a firsthand look at deforestation and its devastating impacts on Indigenous communities in Brazil led Steve to a career in environmental protection.

Steve with his friend Chico Mendes, a powerful voice for Amazon conservation. Mendes was murdered in 1988.

Throughout his career, he has worked alongside Indigenous and traditional leaders in the Amazon to secure and protect their rights. He brought Brazilian rubber tapper and land-rights leader Chico Mendes — assassinated in 1988 — twice to the U.S. to brief key players in Congress and government on the impacts of deforestation. Their advocacy helped suspend a major, internationally financed, destructive road-building project and promoted the idea of protected reserves in Brazil. Today, rubber tappers and Indigenous groups are stewards of nearly half the Amazon rainforest — an area that holds more than 40 billion tons of carbon.

Steve sat down with us to talk about the history of his work in the Amazon and why, amid a pandemic, wildfires and Bolsonaro leading Brazil, there's reason to be bullish about tropical forest conservation.

Tell us about the Panará people, whom you lived with in the Amazon.

Well, let me first tell you about my friend, Krentoma Panará. Krentoma is a Panará Indian, who is about my age, maybe a touch younger. Up until the early '70s, he and his people were doing extremely well living in one of the most isolated regions of the Amazon. They made a good living hunting and fishing with bows and arrows and clubs and making gardens with stone axes.

Then all of a sudden, the government ran a road through the center of his territory. Within about five years, at least two-thirds of the Panará population died from viral diseases that were completely new and devastating. They were also forcibly relocated — on a couple of air force cargo planes — to an Indigenous reserve more than 100 miles away from their traditional territory on what was, from their perspective, a totally different and much worse planet.

I met Krentoma in the early '80s when I went to do field work for a doctorate in anthropology. At the time, the Panará were engaged in a profound struggle to reconstitute their traditional society and culture after the trauma of that contact. They really were on the verge of disappearing, and I got to live with them as they were beginning to put themselves back together in these radically changed circumstances. That made a big impression on me.

How did they go about it?

One thing they figured out is that in the white people's world, you can own land and that they had been wrongfully deprived of their land. They'd been hearing that their land had been overrun by wildcat gold mining and cattle ranching and that they should just forget about it.

But their attitude was, "Look, we never really signed up to leave. We want to go back and see what happened to our traditional territory."

Krentoma reached out to me and some of my Brazilian colleagues, and we helped take a group of elders back. And indeed, the core of their land was totally overrun by gold mining. But we then saw that in the next river basin over, which they had also traditionally occupied, there was a large piece of forest that was intact. And as soon as they saw that, they said, "Look, this is ours. We want to come back here. Will you help us?"

When we checked it out, we found there was a group of ranchers from another part of the state that were beginning to subdivide this territory so they could sell it off — completely illegally because it was public land. So very quickly and discreetly we put together some funding and helped them establish a village in the traditional territory and then, with the government, started the process of official recognition of their land rights.

By the time the ranchers figured out what was going on, it was too late for them to stop the process. So in the middle 1990s, the Panará got their territory, about the size of the state of Delaware, officially demarcated and recognized. And we subsequently helped the whole group — then about 200, up from a low of 67 in the mid-1970s — move back and reestablish themselves.

Why is the protection of the rights of people like the Panará also important in the fight against climate change?

The story of Krentoma and the Panará is not just about them. It's the story of the Indians of the Amazon in the second half of the 20th century up to now. Multiply this story by a few hundred times, and you begin to see that they are all amazingly resilient survivors of genocide, and their success has global repercussions.

In Brazil today, a little more than 20% of the Amazon forest is recognized Indigenous territory. When you add the protected areas, which are mostly inhabited by traditional communities, people like rubber tappers, Brazil nut gatherers, artisanal fishing communities and so on, it's half the Amazon. It's an area of forest equivalent to half the continental U.S. west of the Mississippi. It holds a vast amount of carbon, more than 40 billion tons. So the future of that forest is going to have a real effect on the future of the atmosphere of our planet. And a great deal of it is under pressure from infrastructure projects, roads, logging, extractive industries and so on.

Rubber tappers and other traditional communities keep the forest standing on their protected lands.

But my friend Krentoma has a real problem, which is, he doesn't want to cut down the forest. It's extremely important to him, culturally and economically. Basically all the plants and animals in the forest are his ancestors. But at the same time, he doesn't want to be poor. And his economic alternatives in the white people's economy are either high value but unsustainable — and often illegal, such as logging and gold mining — or they're much more sustainable but really low value.

So the initial reason we got interested in creating incentives for reducing deforestation was recognizing that would be a good way to help Krentoma — and

Indigenous and traditional peoples — solve this dilemma. We needed to make the forest worth more alive than dead.

How do you make standing forest more valuable than timber and ranch land?

We need to create large-scale incentives to reduce deforestation. EDF is playing an instrumental role in this. When the first studies came out in the 1990s linking deforestation to climate change, we saw an opportunity to assign value to standing forest. If Brazil and Amazon states agreed to halt deforestation in a verifiable way, we reasoned, they should get paid for that service. It's valuable.

And we know that large-scale, policy-backed approaches to stopping deforestation work because Brazil did it. Marina Silva, the daughter of a rubber tapper, born and raised in the forest, was environment minister under Lula (Brazilian President Luiz Inácio Lula da Silva) in the early 2000s, and she created new protected areas, opened up the remote-sensing monitoring system to the public, made a national plan and put it into practice. Between 2004 and 2014, Brazil reduced Amazon deforestation by 80%. That's about 3.2 billion tons of CO2 kept out of the atmosphere. That's huge. It's more than any other country has ever done to reduce greenhouse gas emissions. And it shut down a lot of enormously inequitable, environmentally destructive activity.

The key to ending deforestation is making the forest worth more alive than dead.

So EDF, along with Brazilian partners, developed a framework for this concept of payment for the climate protection provided by forests, which was later adopted by the United Nations as reducing emissions from deforestation and forest degradation

(REDD+). In a REDD+ program, a state or country that commits to reducing deforestation below an established baseline and shows that it has done so would receive valuable credits to sell in carbon markets.

Where will those credits be sold? Who will buy them?

REDD+ credits were just approved in November 2020 by the International Civil Aviation Organization for use by airlines to offset their emissions. Now it could take a couple of years to have an impact because the airline industry basically fell off a cliff due to COVID-19. But this is still a momentous decision, the first time that REDD+ credits are being used in a global compliance market. EDF is working to ensure that airlines don't wriggle out of their commitments and that they stick to a net zero climate impact path.

California also recently approved a tropical forest standard for its carbon market, which, when implemented, will ensure that these offsets truly benefit the climate and forest communities.

The Amazon is a giant carbon sponge, a valuable quality in a warming world. EDF is helping bring high-quality carbon offsets to market to fund rigorous, large-scale Amazon protection programs.

My colleague, Ruben Lubowski, has been working with people from the finance sector and the Norwegian government, which has become a real global champion for tropical forest protection, to put together a fund in which private investors buy in to large-scale jurisdictional (national-or state-level) programs to reduce deforestation,

as opposed to stand-alone one-off projects. It's called the Emergent Forest Finance Accelerator, and it launched last year. It works with private companies to buy credits that meet rigorous standards.

So there are a considerable and increasing number of private-sector actors who want to buy these credits. REDD+ works with forest countries to help them meet the standards. Amazon state governments are very interested in getting access to these funds, and some of them are already in position by the quite stringent rules of the standard. It's called The REDD+ Environmental Excellency Standard, or TREES. Cute, huh?

The acronyms are dizzying.

The main point is that actors like the Amazon states, landowners, Indigenous organizations and U.N. climate negotiators are seeing that this concept of compensation for reducing deforestation — at a broad, jurisdictional scale — is real. I think that's part of the reason why we're seeing so many companies now stepping up and looking at this seriously and expressing a willingness to invest.

Where does the money from these programs go?

In the Brazilian Amazon state of Acre, a pioneer in this work, the government decided the first people who get compensated are the Indigenous people and the rubber tappers. In Mato Grosso, another Amazon state, they started by investing in high-tech monitoring to keep an eye on illegal activity — and that is starting to work.

What about farmers and ranchers? In the U.S., EDF helps them get involved in conservation. Is that possible in the Amazon?

Yes. Even if you stop the illegal deforestation, there's an area almost the size of the U.K. that can be legally deforested. So with our partners at the Amazon Environmental Research Institute and the Woodwell Climate Research Center, we have put together a pilot fund. It just launched in two counties in Mato Grosso, but it's going to scale up pretty quickly, we hope. The fund, Conserv, will compensate landowners who have legal rights to deforest on their territories but do not do that. There are many landowners who want to do the right thing. This is something that has been under discussion for years and years and years, but no one has ever actually been able to make it happen.

How much of an impact will investing in tropical forest protection have on the climate?

You can't put the brakes on climate change without stopping deforestation. You can't do it. Tropical rainforests suck carbon out of the atmosphere and hold it in trees, and that storage function is critical to reducing our climate impact. The Intergovernmental Panel on Climate Change says that by stopping deforestation and restoring forests, we can reduce global carbon pollution by at least 25%. But it needs to happen in a big way, and that means working across entire countries or states to protect forests on a massive scale.

We think we can reach 1 gigaton of reductions through REDD+, and we have a goal, with our partners in the Green Gigaton Challenge, of financing those reductions by 2025. Cutting 1 gigaton of carbon will have the same impact as making 80% of cars in the U.S. zero-emission vehicles.

What is the biggest threat to the Amazon right now? Is it climate change? Bolsonaro?

I think it's the combination of deforestation and the effects of climate change in the context of the current Bolsonaro government in Brazil. It's all of those things.

Under Bolsonaro, the idea that the only way for Brazil to benefit from the Amazon is to cut down the forest has had a resurgence. He's actively in favor of environmental destruction — and has said he was behind the massive increase in deforestation. He's wildly in favor of illegal gold mining. His father was a wildcat gold miner.

Even in previous regimes, in these new frontier areas, you had limited efforts to suppress illegal activities. It's much worse under this government. So you have criminal organizations involved in the illegal appropriation of public lands, selling them or developing them for cattle ranching or illegal gold mining or illegal logging — and according to the federal police, drug trafficking as well. It's the same story with the people we ran up against in the Panará territory. They are just running wild.

What about the wildfires? How damaging is that?

There's been deeply alarming work done over the last 10 years or so linking deforestation and climate change to wildfires. Climate change increases the length of the Amazon dry season, and deforestation creates conditions for fires in areas that were formerly too moist to burn.

These connected processes of warming, deforestation, fires and so on create a vicious circle, and scientists say that, eventually, the Amazon will hit a tipping point when the

ecosystem begins to unravel. Large areas of the southern and eastern Amazon could flip from being dense, moist forest into a scrub savanna.

That would have huge consequences for rainfall in Brazil and beyond, far beyond. And for climate, if the forest burns enough to push the Amazon beyond the tipping point, that's going to be a lot of CO2 in the atmosphere. Possibly enough to put a 1.5- or even 2-degree warming target out of reach.

The situation is drastic. It's the worst that I've seen, and I've been working in the Amazon since before the end of the military government in 1985.

A hotter, drier climate and deforestation have made the Amazon more flammable.

2020 was such a bleak year all around. Was there any good news from the Amazon? Has EDF been able to help?

We need to remember that even after two years of the Bolsonaro government, which is actively and aggressively anti-environmental and anti-Indigenous, Brazil has yet to even approach the level of deforestation that it was at in 2004. An area about twice the size of California and Texas together is still officially protected, in spite of everything that this and the last several governments have done.

Also, our partners are not giving up. With help from EDF members, our biggest project on the ground is now supporting local communities in the Xingu River basin to monitor and control the borders of protected territories, to mobilize enforcement operations, and to develop sustainable alternatives.

This year it's become way harder to mobilize the government to enforce because

Bolsonaro is stopping the environmental agency, IBAMA, from carrying out its legal mandate. But IBAMA hasn't given up. Just last spring it carried out a huge enforcement operation and threw out a bunch of people who had invaded Indigenous territories. Bolsonaro fired the head of environmental law enforcement because of that.

Indigenous and traditional communities protect the land that stores 58% of the carbon in the Amazon. "In the future," says Kayapo chief Megaron, "this forest will be needed by my grandchildren and great grandchildren. It may be that other people — everyone — will need it."

Indigenous groups aren't rolling over either. In November, a Kayapo group located an illegal gold mining operation in the middle of their territory, through the remote sensing that EDF and our donors are supporting. Before Bolsonaro, the Kayapo would have taken that information to the government, and IBAMA would have shut it down.

Well, IBAMA was kind of backed up against the wall. So 17 Kayapo young men set off, spent two days getting into the center of their territory, by river and over land, and found about 47 men in a mining camp on what's supposed to be their protected land. The Kayapo rounded these guys up, disarmed them and called up the bosses of their criminal organization on the radio and said, "We got your guys. You better get them out." And they flew them out.

On one hand, this is not something that we ever want to see happening because it's dangerous. I mean, the people doing the mining are hired hands, right? They're peons. The ring leaders who are buying the $500,000 excavators that are ripping up the forest and the rivers are not peons. They're running sophisticated and well-financed criminal organizations. So we don't want the Kayapo to be taking on that kind of risk.

But on the other hand, it's a real demonstration that they are not giving up. They are defending their territory. They're not exactly helpless.

How is the pandemic affecting Indigenous people in the Amazon?

In Brazil, Indigenous people die of the virus about twice as often as the general population. COVID-19 is only the most recent chapter in the terrible history of epidemics brought on by contact with outsiders. They are very concerned, and rightly so. They are vulnerable, isolated and don't have a lot of access to modern health care.

But there is one bright spot. Our partners in Brazil helped the Association of Indigenous Peoples of Brazil bring a suit to the Supreme Court against the federal government, demanding that the federal government protect Indigenous territories that have been invaded against COVID-19. And the Supreme Court agreed that it is the government's responsibility to shut down those invasions. Now there's a plan to go forward, which needs to be more effective, and our partners are working on that. So yes, it's still dire, but it does show that while a lot of this government is fundamentally misguided and evil, the courts aren't. There's a lot we can do.

How effective are the efforts of businesses to reduce deforestation?

I think the commitments that companies like Walmart and others have taken on to clean up their supply chains send a very important signal. We don't want to overlook that.

It's also the case — and I think these companies have been pretty forthcoming about it — that they are nowhere near meeting their goals. But they haven't abandoned their efforts; they are still working on solutions.

There's a big part of this that companies are not going to be able to achieve themselves. They can't enact policy. They can't stop criminal gangs from illegally occupying public lands and deforesting them or invading Indigenous territories. Governments can do that. And in a lot of cases, governments can use support and help to make that happen.

So I think that message is getting across, and you're seeing companies coming around to the idea of jurisdictional systems to reduce deforestation. I think that's really helpful. And it's a very important part of the reason why Amazon states have been willing to stand up as they did in the international climate talks in Madrid in 2019 to say, "We're not on board with this slash-and-burn agenda of the Bolsonaro

government." It's because they see these market signals, REDD+ programs, the airline offset program and California's carbon market, but also major companies saying we want to be able to source deforestation-free commodities. It's something that registers with the Amazon states. They're starting to see a future in a forest-based, low-carbon economy.

And, lastly, particularly in the EU, you have a bunch of major importers and investors telling the Bolsonaro government that they do not want to see increasing deforestation in the Amazon, and that's eventually going to affect Brazilian agribusiness very directly.

Bolsonaro still has two years left in his term, but America has a new president. Will there be new opportunities under the Biden-Harris administration for tropical forest conservation?

President Biden said in his campaign that he wants to mobilize $20 billion to protect the Amazon. That's a very positive sign. Secretary Kerry is very aware of the importance of stopping deforestation for the climate, and neither he, the president nor the State Department have any illusions about what kind of a government Brazil currently suffers under. So I think we'll see a good faith, multilateral offer of substantial support under the right conditions — and pressure and sanctions on various fronts if wanton destruction and rights violations continue. We, and many of our partners, will be very interested in working with the administration to find creative ways to support civil society, Indigenous and traditional peoples, and forward-looking Amazon states.

> "I don't know if you know this, but trees are like us. They talk like us. This is why I'm very careful about cutting them down. People hurt them a lot. If I cut down a tree, the kin will ask, "Why did you kill my brother?"
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> **Ntoni, leader of the Kisêdjê people, 2008**

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