June 2015

Full Circle: REDD and Indigenous People

Past, Present, and Future

Ecosystem Marketplace
A FOREST TRENDS INITIATIVE

USAID
FROM THE AMERICAN PEOPLE

About Forest Trends' Ecosystem Marketplace

Ecosystem Marketplace, an initiative of the non-profit organization Forest Trends, is a leading source of information on environmental markets and payments for ecosystem services. Our publicly available information sources include annual reports, quantitative market tracking, original articles, daily news feeds, and news briefs designed for different payments for ecosystem services stakeholders. We believe that by providing solid and trustworthy information on prices, regulation, science, and other market-relevant issues, we can help payments for ecosystem services and incentives for reducing pollution become a fundamental part of our economic and environmental systems, helping make the priceless valuable.

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Forest Trends is a Washington, DC-based international non-profit organization whose mission is to maintain, restore, and enhance forests and connected natural ecosystems, which provide life-sustaining processes, by promoting incentives stemming from a broad range of ecosystem services and products. Specifically, Forest Trends seeks to catalyze the development of integrated carbon, water, and biodiversity incentives that deliver real conservation outcomes and benefits to local communities and other stewards of our natural resources. Forest Trends analyzes strategic market and policy issues, catalyzes connections between producers, communities, and investors, and develops new financial tools to help markets work for conservation and people.

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1.

REDD Dawn: How It All Began

By the end of this year, governments around the world will have invested more than $7 billion in something called "REDD", which is an acronym for "Reduced Emissions from Deforestation and Degradation" of forests. The acronym covers a broad set of activities that aim to slow climate change by saving endangered forests and keeping carbon locked in trees.

But how, exactly, does REDD work? And how do indigenous people fit into it?

These are questions that Ecosystem Marketplace has been wrestling with since it was created in 2005 by the US environmental NGO Forest Trends. As a news service and research organization focused on environmental finance, we have explored the issue in-depth and tried to explain it for a mainstream audience. These six articles are part of the latter effort. The first is a work in progress that will soon be published on Ecosystem Marketplace, while the others are adaptations of articles that we published in the past six months.

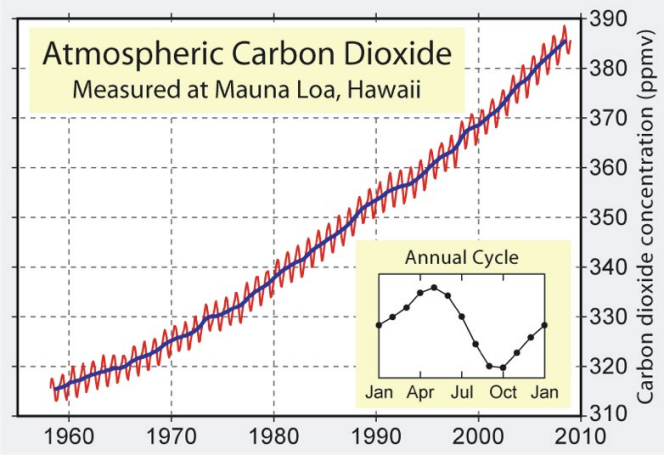
This isn't a comprehensive guide to REDD, but a sampling of our coverage – yet it's coverage that we hope is accessible enough to be understood by someone with little or no prior knowledge of REDD, but technical enough to actually be of value. We apologize for any discrepancies you may find between these versions and the ones you find online, but hope you find them all helpful and informative.

We begin, as most stories do, at the beginning.

By Steve Zwick

By all accounts, REDD was born in 1988 – not so much to save the planet as to help poor farmers in Guatemala manage their land more sustainably. It's germination, however, began three decades earlier, in 1958, at the Mauna Loa Observatory in Hawaii. That's when the late American scientist Charles Keeling started measuring the amount of carbon dioxide in the atmosphere. That exercise eventually yielded the "Keeling Curve": a diagonal line that zigzags upwards as CO_2 levels increased year-to-year.

The upward slant reflects the increasing carbon dioxide in the atmosphere as forests decrease and the burning of fossil fuels increases, but the zigzags reflect the rhythm of farms and forests in the Northern Hemisphere coming alive in summer, when they sponge up CO_2, and falling dormant in the winter.



Source: Global Warming Art Project.

If this natural rhythm had such a pronounced effect on the atmosphere, scientists began to wonder, what impact does rampant deforestation have? How much of our greenhouse gasses come from industrial emissions, and how much form chopping trees? Scientists had known about the greenhouse effect ever since the early 1900s, when Swedish scientist Svante August Arrhenius dubbed it the "hot-house" effect, but Keeling's curve showed that CO_2 levels were rising faster than most believed.

Trees and Climate Change: An Early Defense

By the early 1970s, scientists were beginning to see climate change as a very real but distant threat – one that would force us to completely restructure our industrial economy. Physicist Freeman Dyson was one of those who decided to tackle the problem ahead of time – and look for workable solutions.

"Suppose that, with the rising level of CO_2, we run into an acute ecological disaster," he wrote in a 1977 article entitled "Can We Control the Carbon Dioxide in the Atmosphere?", published in the journal *Energy*. "Would it then be possible for us to halt or reverse the rise in CO_2 within a few years by means less drastic than the shutdown of industrial civilization?"

His conclusion: yes, it would be possible to slow climate change by planting trees – but not as a permanent solution. Instead, he saw trees as a short-term, stopgap measure that would slow the process long enough for technology to catch up.

"The long-term response, if such a catastrophe becomes imminent, must be to stop burning fossil fuels and convert our industry to renewable photosynthetic fuels, nuclear fuels, geothermal heat and direct solar-energy conversion," he continued. "But a world-wide shift from fossil to non-fossil fuels could not be carried out in a few years...An emergency plant-growing program would provide the necessary short-term response to hold the CO_2 at bay while the shift away from fossil fuels is being implemented."

Trees and Sustainable Agriculture

Meanwhile, in 1974, humanitarian organization CARE had launched a program called *Mi Cuenca* (My Watershed) to help Guatemalan farmers save their topsoil – in part by planting rows of trees on steep farmland to capture runoff and create natural terraces. The project soon became an unqualified success, and farmers across the region were clamoring to join, but by 1988 CARE was running out of money, and the project was on its last leg.

That same year, the United Nations launched the Intergovernmental Panel on Climate Change (IPCC) to explore the science of global warming – and an energy executive named Roger Sant was looking to expand his company's output – preferably by building wind farms. A proponent of green energy in the Carter Administration, he'd co-founded a company called Applied Energy Services (AES), in part with the objective of making green energy work.

Rural Development and Reduced Greenhouse Gas Emissions

Wind-farm technology, however, wasn't what it is today, so Sant asked the World Resources Institute (WRI) if there was a way to offset his emissions by reducing them somewhere else – a radical concept at the time. WRI picked up Dyson's idea – which other scientists had moved forward – and suggested he plant trees across the United States. That quest found its way to Paul Faeth, an agricultural engineer with the International Institute for Environment and Development (IIED), which was in the process of merging into WRI.

Faeth knew of *Mi Cuenca's* plight, and he proposed killing two birds with one stone: by planting trees in Guatemala, he said, AES could help both the environment and the rural poor.

Intrigued, AES began working with WRI to explore the science – science that had, ironically, been perfected by timber companies to estimate the amount of wood in a forest. It was a simple but labor-intensive process that involved measuring trees at chest-height and then applying "allometric equations" based on the tree's height and species to see how much wood it contained. From there, it was simple math to extrapolate the amount of carbon: basically, divide the wood by two.

But there was more to it than just the carbon in the newly-planted trees.

Deforestation and Climate Change

Researchers at the time were estimating that deforestation contributed about 20% of global greenhouse gas emissions – estimates that have since been confirmed by the IPCC. That meant you could reduce greenhouse gas emissions faster by saving endangered forests than by planting new trees, which would need decades to get big enough to matter. Plus, living forests provide habitat for endangered species and deliver "ecosystem services" such as water filtration and climate control. On top of that, saving forests seemed inexpensive.

WRI had just hired a policy analyst named Mark Trexler, who pointed out that any trees they planted on the slopes would also save endangered forest further up, because farmers wouldn't have to keep abandoning their land for greener pastures. That, he argued, was more important from a carbon perspective than planting trees – especially if many of the newly-planted trees ended up being cut down to supply farmers' immediate needs. He proposed focusing their attention on saving the trees

AES decided to spend $2 million to save and expand *Mi Cuenca* to offset 2 million tons of its own internal CO_2 emissions. CARE re-named the project "*Mi Bosque*" (My Forest), and today their experiment is considered by some to be the world's first REDD project. Although a later analysis found it drastically over-estimated the amount of carbon that was kept out of the atmosphere, it sparked the decade of experimentation that led to the creation of today's rigorous carbon standards.

Climate Talks Begin

The project caught the eye of The Nature Conservancy, and pilot projects started proliferating across Latin America. The term "REDD" wouldn't enter the vernacular for another 15 years, but NGOs began developing structured, methodological approaches to "Avoided Deforestation" (AD), which became a hot topic at the Rio Earth Summit in 1992, as well as at the First Conference of the Parties (COP 1) to the United Nations Framework Convention on Climate Change (UNFCCC) in Berlin in 1995.

As climate talks progressed, analysts like Trexler and ecologists like Tia Nelson of The Nature Conservancy argued for the inclusion of REDD in the UNFCCC framework as a critical means to immediately combat rising greenhouse gas – primarily CO_2, but also methane, nitrous oxide, sulphur hexafluoride, and the ozone-depleting hydrofluorocarbons and perfluorocarbons.

On the REDD front, proposals ranged from "project-based" frameworks like *Mi Bosque* to "national baseline frameworks" using a country's historic rate of deforestation as a performance baseline and then offering payments for beating it.

Politics and Science: the Great Divide

The proposals, unfortunately, found little traction – for a variety of reasons. To begin with, few climate negotiators had a forestry background, so the science was lost on them. Furthermore, "offsetting" had become equated with "incentivizing industrial reductions", and most environmental organizations were horrified by the idea of cheap offsets, which they feared would flood the market and remove the incentive to change industrial practices. Finally, developing countries – still mindful of their recent colonial past – feared that REDD would cost them control of their forests. On top of all that, no one really agreed on how best to determine which forest was in danger and which was not.

As a result, when the Kyoto Protocol emerged from COP 3 in Kyoto, Japan in 1997, REDD was off the UN table and relegated to voluntary markets, where it continued to evolve at the pilot scale under real-world conditions.

Voluntary Carbon Markets

Over the next 15 years, standard-setting bodies like the Verified Carbon Standard emerged to provide ways of determining which forest was endangered and which procedures can be used to save it. At the same time, the Climate, Community & Biodiversity Alliance emerged to ensure indigenous rights, and forest communities that embraced REDD found themselves able to earn income from their stewardship of the land.

Within the UNFCCC, however, REDD remained on ice until 2005. That's when Papua New Guinea wrangled it back onto the agenda at Climate Talks in Montreal (COP 11). In 2010, REDD was the sole bright spot in the otherwise dismal Copenhagen Accord. By 2011, governments around the world were harvesting the lessons of voluntary REDD pilot project developers and offset buyers to launch larger-scale regional REDD programs that accounted for avoided deforestation at the "jurisdictional" scale but still allowed early pilot projects to generate emissions reductions and earn offsets and revenue (i.e. "nest") within their borders. The UNFCCC and World Bank, however, steered clear of anything involving offsets and drifted toward purely jurisdictional approaches that left individual projects in limbo. (If that seems like a lot to swallow, keep reading the articles that follow.)

Then, at the 2013 climate talks in Warsaw, the UNFCCC finally agreed on a REDD Rulebook for jurisdictional REDD. Actually a collection of seven decisions, the Rulebook provides guidance on how countries can harvest available data to earn REDD income. The Rulebook's provisions for program development are significantly less rigorous than the standards imposed on voluntary projects, but the payments into jurisdictional programs aren't offsets – meaning countries can't claim to have reduced their own carbon footprint. Instead, jurisdictional programs are increasingly seen as "payments for performance" that could slow deforestation by supporting sustainable agriculture – while at the same time creating a framework within which more rigorous individual projects can address specific local challenges.

In the pages ahead, we'll see how REDD is playing out in the Amazon rainforest – among those people who have been among the world's most responsible stewards of the land.

This story is available online at:
"REDD Dawn: The Birth Of Forest Carbon"
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10994&section=news_articles&eod=1

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2.

Indigenous People Explore Many Shades of REDD

Indigenous people – and forest people in general – have long been among the planet's most responsible stewards of the land. They've contributed the least to the global climate crisis, yet will suffer the most from its effects. REDD offers a way to rectify this injustice – and here's how some indigenous leaders hope to make it work.

On a daily basis in the dry season, flat-bed trucks rumble up an offshoot of Brazil's Highway 364 laden with dead trees illegally ripped from the Zoró Indigenous Territory, which lies at the southern edge of the Brazilian Amazon. The bounty includes old-growth teak and mahogany destined for luxury furniture showrooms across Brazil and around the world.

The finished wood from a single mahogany trunk can fetch tens of thousands of dollars, but only a few pennies of that will go to members of the Zoró indigenous people, who make their money by illegally escorting loggers to the most productive parts of their forest. It's a practice that many Zoró say they'd rather abandon, but they see no choice if they're to feed their families.

After leaving the Zoró territory, the trucks pass along the northern edge of the *Sete de Setembro* territory, where the Paiter-Surui community once logged just as aggressively as the Zoró do today.

"We had survived for centuries by nurturing the forest, but to survive in the modern market economy, we had to let outsiders come in and chop the mahogany and teak," says Almir Narayamoga Surui, chief of the Paiter-Surui people. "As the trees fell, the birds went silent, the animals and fish retreated, and our people lost their way."

But that changed dramatically over the past five years, as most of his people voted to give up logging. Instead, they tapped into financing for "REDD" (Reduced Emissions from Deforestation, Degradation) to earn carbon offsets by saving their forest – becoming the first indigenous people to do so. Income from the offsets they sell is being used to jump-start a 50-Year Development Plan that builds a sustainable economy on non-timber forest products like Brazil nuts and acai berries, as well as sustainable fisheries and ecotourism.

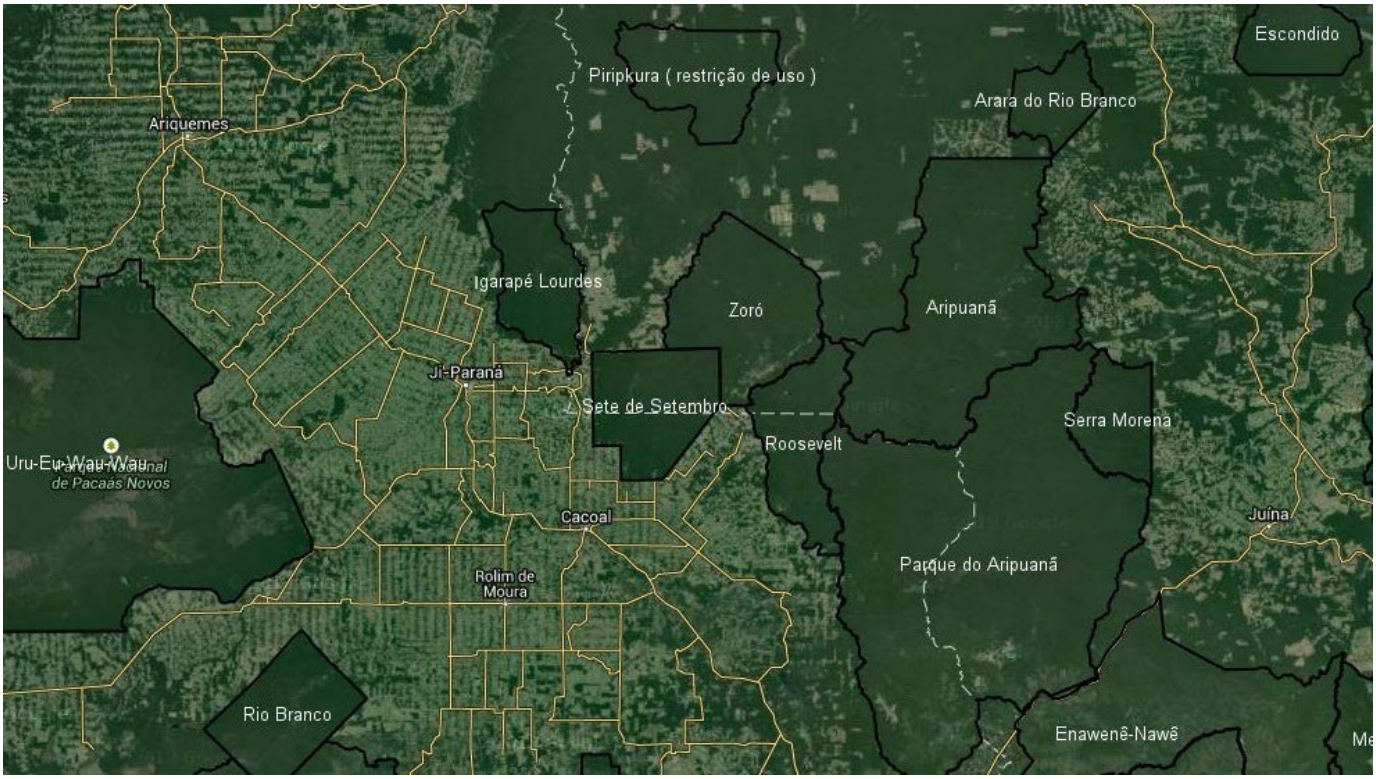
The Rise and Limits of REDD

The Surui Forest Carbon Project is one of hundreds of REDD projects around the world, according to the latest Ecosystem Marketplace State of Forest Carbon Markets Report. But what worked for the Paiter-Surui might not work for all indigenous territories facing dire threats from deforestation – as one would find if they followed those same logging trucks out of the Sete de Setembro territory and through the southern tip of the Igarapé Lourdes territory.

This is home to two other people: the Gavião and some of the Arara, both of whom have so far resisted the siren song of logging. But illegal incursions have been taking place along the road, and the people of Igarapé Lourdes also face financial challenges: health-care costs are skyrocketing, and they need money as much as the Paiter-Surui and Zoró do.

REDD could, in theory, help them address their needs and keep illegal logging at bay, but to earn REDD offsets, they'll have to prove two things: first, that their forest is under immediate threat, and second, that they will only be able to save it as a *result* of the money they receive for their REDD efforts (a concept known as "additionality" in REDD parlance).

For Ecuadorian indigenous leader Juan-Carlos Jintiach, the additionality requirement is one of REDD's great flaws. Created to prevent greenwashing and make REDD more rigorous, he says it punishes those people who have traditionally been good stewards of the land.



Seen from above, indigenous territories in the Arc of Deforestation appear as islands of emerald in seas of gray-green degradation. It's as stark an illustration as you'll find of the vital role that indigenous people play as guardians of the rainforest, but it's a role that takes its toll on the people themselves. The Sete de Setembro territory is in the center, with Igarape Lourdes to the northwest and the Zoró territory to the northeast.

"All across the Amazon, indigenous people are crying out for help to defend the forest," says Jintiach. "But because they had no deforestation, they have no access to REDD finance."

Jintiach is the former head of COICA (*Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica* / Coordinator of Indigenous Organizations of the Amazon River Basin), which is a Lima-based federation of indigenous organizations across Latin America, and he thinks he has an answer.

The Arc of Deforestation and the Dawn of Indigenous REDD

After passing through *Igarapé Lourdes,* log-laden trucks leave the indigenous territories and rumble out into the dusty terrain beyond – where cattle graze on land that's far more depleted than even the Zoró territory, a veritable Eden compared to the farms and fields around it, even though it's badly degraded by indigenous standards.

Sixty years ago, the Zoró, the Paiter-Surui, the Gavião and the Arara were isolated people of the Amazon, but today they're at ground zero of the "Arc of Deforestation" – a boomerang-shaped band of destruction that sprawls across the southern and eastern edges of the Amazon Rainforest, representing the frontier of what was, just a century ago, a vast and unspoiled forest.

It's a region of vital importance to the global climate, because indigenous territories of the Amazon hold nearly 30 billion tons of carbon, which would become 110 billion tons of carbon dioxide if it made its way into the atmosphere. That's a real possibility, because more than half of those trees are in danger of being destroyed, according to research by the Environmental Defense Fund, the Woods Hole Research Center, and COICA.

The Arc of Deforestation stretches from the port city of Belém at the mouth of the Amazon to Brazil's border with Bolivia

In a paper entitled "Forest Carbon in Amazonia: The Unrecognized Contributions of Indigenous Territories and Protected Natural Areas," the three NGOs looked at current threats, like the expansion of access roads and the encroachment of ranchers, and concluded that roughly one-third of indigenous and protected territories are under "immediate threat" from illegal logging, mining, dams, and agriculture, while an additional one-fifth are under "near-term" threat.

"Think about all the mega projects that are going to be developed," says Jintiach. "We know what´s going to happen – islands of deforestation, contamination, and criminal activities – but we, the indigenous people of the Amazon, have an answer."

Specifically, Jintiach and the current COICA leadership are spearheading the creation of a new mechanism to finance "Indigenous REDD+" (*REDD+ Indígena Amazónico*, or "RIA"), which aims to adapt financing for mechanisms like REDD+ (which not only saves endangered forest but leverages sustainable forest management to avoid deforestation) to existing indigenous practices that have worked for centuries and then apply them in support of government-led initiatives like Brazil's National Climate Change Plan. This plan is part of a national policy that established official Amazon deforestation targets of 80 percent by 2020.

It's an ambitious undertaking that draws on lessons from private conservation initiatives in the Amazon, global efforts underway within the United Nations and even efforts by corporate giants to get deforestation out of their supply chains.

But to understand how REDD works on a grand scale, it helps to see how it works at the project level.

This story is available online at:
"Indigenous People Explore Many Shades of REDD"
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10752&section=news_articles&eod=1

3.

Chocó-Darién: What Projects Can – and Cannot – Achieve

Colombia's civil war had the perverse effect of protecting the forests in and around the Tolo River, but peace brought loggers and cattlemen, while poverty drove desperate forest people to begin chopping trees. Here's how they used REDD to fight deforestation and build the foundation for a more sustainable future.

By Tanya Dimitrova and Steve Zwick

Five young men are cutting their way through dense rainforest in the northernmost part of Colombia, each wearing a sweat-drenched t-shirt colorfully emblazoned with the word "COCOMASUR" – an acronym distilled from "Consejo Comunitario de Comunidades Negras de la Cuenca del Río Tolo y Zona Costera Sur," which means "Council of the Black Communities of the Tolo River and Southern Coast" in Spanish.

At the head of the line is Frazier Guisao, a young Afro-Colombian whose ancestors settled along the Tolo River after the abolition of slavery in 1851. His brother Eusebio follows a few steps behind, along with three other community members – all of whom spent their youths in exile after fleeing in the late 1990s, when mercenaries hired by rich land owners ruled the region through torture and murder.

Today, police and army soldiers patrol both the streets and the countryside, but former mercenaries still live in town. Yet the Tolo River crew is not afraid to perform the forest patrols. They go for their daily perimeter checks, armed only with cameras and GPS-enabled cell phones, looking for evidence of illegal logging. When they find what they're looking for – a recently-cleared patch of forest, or logging tracks – Ferney Caicedo photographs it and records the coordinates. The slender 21-year-old recently completed a professional forestry course, and aims to make this his life's work.

"This wood is worth around three million pesos ($1,500 USD)," says Frazier, gesturing toward a smaller tree in front of him and applying the knowledge he learned when he first came home – when he was forced to earn his living chopping the forest he now protects.

All of these men could easily make more money as loggers, but they've chosen to protect the forest instead – a choice made possible by the Chocó-Darién Forest Conservation Project, a trailblazing REDD project that began coalescing in 2005, when community leader Aureliano Córdoba took advantage of a critical provision in the 1991 Constitution that allowed indigenous and Afro-Colombian forest communities to claim their ancestral lands. By securing collective title to the land for his people, Córdoba was able to begin rekindling the attachment to the forest that many of his people lost while in exile.

"I used to be afraid," says Córdoba. "But no more. I have 1,500 people behind me now. If something happened to me, the entire community would stand to defend me."

"Our only defense is that we are organized and determined enough to seek our rights," says Eusebio.

The Downside of the Peace Dividend

With civil war hostilities waning and his people in clear possession of title to their land, Córdoba began to look for ways to create jobs as his community recovered. He initially explored logging, but soon found that his people weren't the only ones flooding into the territory after the danger subsided – outside loggers were coming for trees, and cattlemen along the perimeter were quietly expanding their ranches illegally.

Instead of just *harvesting* the forest, Córdoba realized, he should be *saving* it if his people were going to maintain their quality of life – but how? His own people needed to make a living, and many were either logging or working on cattle ranches, which were owned by wealthy and well-connected businessmen.

To address the challenge, he developed – and won support for – a long-term sustainability strategy that would help his own people meet their needs by harvesting non-timber forest products and working at peripheral ranchers, but he also needed to keep the outside ranchers and loggers at bay.

The Genesis of REDD

In 2008, Córdoba met an anthropologist from Stanford University named Brodie Ferguson, who was studying the civil war's impact on indigenous people and Afro-Colombian communities. Both Córdoba and Ferguson had heard about REDD, which at the time functioned only in voluntary carbon markets but was gaining traction in global climate talks as something to be used on a wider scale. Ferguson had asked members of the indigenous Arhuaco for their opinion, and got a surprising answer.

"Do we want to be paying the youth of our community to conserve the forest?" asked Danilo Villafañe, an Arhuaco chief. "Shouldn't they be doing this anyway out of appreciation for the forest and the community traditions…just because it's the right thing to do?"

It was a question that went to the heart of Ferguson's PhD research, which showed that forest people, whether indigenous or immigrant, don't *want* to chop the forest beyond what they needed to survive – but in the face of displacement and armed struggle, they often find themselves losing their connection to the forest. At the same time, for many of them, paying people to conserve is akin to buying a child's affection: it turns a profoundly spiritual experience into a financial transaction.

The Economics of REDD

But Ferguson had looked into the economics of REDD, and he knew that income from selling carbon offsets couldn't compare to any of the alternative ways to use their land: cattle ranching, cacao plantations, and gold mines. A recent study estimated that only a price above around $30 USD per ton of carbon dioxide could make a forest more valuable standing than cleared, and even then, only in some circumstances. From Ferguson's perspective, REDD wasn't an *incentive* to save forests; it was an *enabling mechanism* that, when done right, could bring in enough money to jump-start new activities that could take the pressure off the forest for the long term.

> ***"We don't want the money so we can get rich. We want to develop organizationally. That way we can protect our territory, maintain peace, and improve our lives."***
>
> *Aureliano Córdoba,*
> *Community Leader*

"It should be spent on things like education, creating environmental awareness, improving healthcare, empowering women," he says. "Even if 100 percent of the profits go to the community – the best- case scenario – if they are not spent the right way, we are not achieving what we should be."

Córdoba realized that, in Ferguson, he had a kindred spirit.

"We don't want the money so we can get rich," Córdoba says. "We want to develop organizationally. That way we can protect our territory, maintain peace, and improve our lives."

Illegal Deforestation and the Myth of the Carbon Cowboy

Both men had heard horror stories of ruthless "carbon cowboys" scouring the planet in search of forests to commandeer, but most of those stories revolved around one man: a serial swindler named David Nilsson, who tried to con indigenous people in Peru by masquerading as a project developer. Most of the indigenous people he targeted, however, wouldn't sign with him; and the contracts he did sign were declared invalid. He was roundly ignored by everyone who knew anything about conservation-based climate solutions, and he's been rightly barred from ever entering Peru again, according to media reports.

But while swindlers are a fact of life across the planet, the myth that REDD had drawn hordes of speculators to the region to gobble up forests for their carbon content turned out to be just that: a myth, and for a variety of reasons.

Frazier Guisao, member of the Tolo River forest patrol sitting at the edge of the community forest.

To begin with, there were the lessons of early pilot programs, which underlined the importance of involving indigenous people in a successful REDD program. Then there were the emerging carbon standards, which required the "Free, Prior, and Informed Consent" (pronounced "F-Pic") of indigenous people before a program could proceed. And, finally, there were the economics: anyone ruthless enough to commandeer a forest wouldn't settle for the little bit of money he could earn by saving it; he'd chop it up – as, in fact, loggers and cattlemen were already doing across the Amazon – in part because it was so cheap and easy to do so.

In countries where land is expensive and property rights are enforced, ranchers keep cows in relatively small spaces and feed them "silage" – fermented fodder produced from grass and maize – which lets them raise up to three animals per hectare, according to the Food and Agriculture Organization.

But in Colombia, ranchers average just one cow per hectare of land. That means the cows always have waist-high grass on which to graze, but only because ranchers illegally clear and fence off small plots near the edge of the forest. Global demand for commodities like palm oil, soybeans, and cattle is driving deforestation all around the world – and nearly half of that deforestation is illegal, according to a 2014 Forest Trends report called "Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations".

Córdoba was leery of antagonizing the cattlemen who provided jobs for so many of his people, but he also knew the ranchers could easily double their production without gobbling up more forest. He ultimately concluded that the ranchers needed workers as much as the workers needed ranchers.

REDD, he concluded, could provide a bulwark against illegal deforestation by providing money for forest patrols, with any profit going into a general fund for education and health care.

The two men then agreed to build a REDD project together.

Carbon Standards

First, they had to decide which carbon standard they wanted to use. Standards dictate everything from how you measure the carbon captured in trees to how you determine which parts of the forest are truly in danger to how you treat the people living there.

They chose the Verified Carbon Standard (VCS), which was then called the Voluntary Carbon Standard, and the CCB Standard, intended for carbon projects with exceptional benefits for wildlife and communities.

To get the ball rolling, Ferguson sold his condo and created a company called Anthrotect to act as project developer.

Free, Prior, and Informed Consent

FPIC requires disclosure, discussion and agreement – a process involving far more than just a few meetings between community leaders and a project developer.

Jorge Vergara milking a cow with the help of a local boy. (Photograph: Tanya Dimitrova).

FPIC means that project developers must offer information to the community, ensure they understand it through a feedback loop, allow them time for private discussions, hold meetings to answer questions, and organize focus groups to gather women's or youth's perspectives. It is an expensive process, involving sociologists or anthropologists, and it can take years.

Although new research from the World Resources Institute and the Rights and Resources Initiative indicates that REDD programs tend to strengthen the rights of forest people, that is not a foregone conclusion, and many forest peoples lack the legal protection that the Tolo River community enjoys. In many other countries, forest dwellers do not own the land or the forest they have lived in for centuries.

From the beginning, Córdoba aimed to exceed even the stringent requirements of FPIC and to involve the whole community in the design of the project — an approach that he believed would ultimately strengthen the project by making it more attuned to the needs and desires of his people, and therefore more likely to succeed. In that spirit, he put his neice, Everildys Córdoba, in charge of explaining the process to the community.

"I had to take a complex subject and try to make it simple," she says. With the remainder of the community now on board, the Tolo River people turned their attention to measuring the carbon stored in their forests.

Measuring the Carbon Content

Ferguson sold his condo and borrowed money to bring in outside consultants like biometrician Kyle Holland of Ecopartners LLC and Álvaro Cogollo from the Medellin Botanical Garden, whose team spent three months in the Tolo River community forest studying the biodiversity and carbon it contains. They selected random plots, identified the tree species within them, and then measured their height and circumference. Using allometric equations, they calculated that one acre of the communal rainforest could contain up to 300 tons of carbon – multiples of the average carbon content in one acre of an Amazonian forest.

Since much of a forest's carbon is found in the leaf litter and soil, the team also took soil samples and analyzed their carbon content. The samples had to be shipped to the United States, because there were no laboratories in Colombia

Men from a nearby town transporting locally logged timber for construction. (Photograph: Tanya Dimitrova).

equipped to carry out the analysis. The team then repeated the process for trees and soil in cattle pastures in order to know how exactly much carbon is left in the landscape after ranchers clear forests for pasture.

The Reference Level

After estimating the carbon stocks in the forest, the team had to ascertain how much carbon would be released if business continued as it was going. First, they looked at the trend in historical rates of deforestation to see how much of their forest would likely be chopped down for pasture if business continued as usual. Then, using satellite imagery, they compared the forest with other unguarded forested areas nearby and concluded about 170 hectares per year (5,000 hectares total) would be lost to cattle ranching, agriculture, and selective logging if defensive actions weren't taken immediately.

Referring back to the species composition of the forest and the trees' average height and width, they team pegged the total greenhouse gas emissions from encroachment by ranchers at 2,800,000 tons of carbon dioxide over the next 30 years. This is equal to about 90,000 tons of carbon emissions per year.

The data collection and the analysis took the better part of 2011, and then they wrote up their analysis in a Project Description (PD) and submitted it to the VCS for a rigorous process of peer-review known as "validation" – the phase in which the VCS determines if a project's design is, in fact, valid.

If they passed that, they'd have to then go through a process of verification – meaning they had to show they were actually taking the steps outlined in their project's plan.

Verifying the Results

In July 2012, Pablo Reed, an independent third-party auditor, came to the Tolo River community forest to verify the carbon offsets. Reed was working for the international certification firm Det Norske Veritas (DNV), and had special experience in land-use carbon projects such as REDD+.

Reed recalls that just getting to the GPS-marked forest plots in the Tolo River community was an adventure, involving a charter flight, a boat ride, a motorcycle, a horseback ride — and then finally a trek on foot into the forest following the patrol. Reed observed Caicedo and other trained community members perform the tree measurements and then compared the numbers to what they had measured in the initial inventory.

After a reviewing the project's documents and visiting the site, Reed and his team concluded that the forest patrols and other project actions had saved more than 500 hectares of at-risk forest. Had the forest been cleared for pasture, it would have released more than 100,000 tons of carbon dioxide into the atmosphere, or the equivalent of 20,000 cars.

Finally, in December 2012, the Verified Carbon Standard authorized the issuance of 104,000 verified emissions reductions (VERs) for listing in the Markit Environmental Registry, which is a global database of carbon projects created to ensure that offsets aren't counted twice.

Ferney Caicedo (right) and another forest patrol member resting at the buttress roots of a giant almendro tree. (Photograph: Tanya Dimitrova)

Plans for the Money

Revenue from the first tranche of credits was used to cover the cost of setting up the project as well as administrative and operating expenses like the forest patrols.

As in most community projects, the Tolo River People do not receive individual cash payments from the sale of carbon credits. "Giving out money to not cut the forest makes people lazy," says Frazier Guisao.

Instead, they plan to use future revenue to improve the community healthcare services, send young people to universities, and strengthen the community organization, with some kept in reserve for emergencies. Beyond that, the proposals are endless.

One recent day after a morning patrol through the forest, the crew relaxed under the shade of a sun shelter that Guisao built from palm trees, waiting for the afternoon heat to pass.

"We should fix up the village school and offer professional courses for adults," suggested one member.

"We should build an aqueduct to pipe down clean water from the hills to the village," another offered.

Some want to use the money to subsidize struggling farmers, while others want to improve the dirt road to the village, and still others want a cell phone tower to enhance phone service in this remote region. One person mentions start-up funds for a food-delivery service by a women's collective. Another dreams about building a community center.

In any case, as has been true throughout this particular project's journey, the entire community is involved in how any profits will be spent.

When Deforestation Moves Down the Street

Isolated REDD projects have been used to rescue endangered patches of forest around the world, but often the loggers and cattlemen who are denied access in one location simply move down the road – an activity that carbon accountants call "leakage." Project developers do account for it, and in theory they subtract the leakage from their total offsets, but the only way to eliminate leakage is to spread carbon accounting and control across entire states or countries.

"That's how it was always supposed to be," says Dan Nepstad, Executive Director and Senior Scientist at the Earth Innovation Institute. "No one ever wanted all these scattered, isolated projects dotting the forest, and even in the 1990s, it was a given that we needed jurisdictional programs to have a real impact."

Many indigenous REDD programs are, in fact, built on a jurisdictional model – but more importantly, they are also built on an indigenous model. Like the people of Tolo River, indigenous people across the Amazon have been developing formal plans for their forest. Just as REDD was a means to an end – rather than an end in itself – for the Tolo River people, so is it for indigenous people across the Amazon. Most have spent decades developing long-term development plans called "Life Plans", and most are finding them difficult to get off the ground. Is REDD the answer?

4.

Indigenous Life Plans and Carbon Finance: Two Sides of the Same Coin?

In the early 1990s, environmentalists started experimenting with carbon finance to support conservation just as indigenous people of the Amazon began developing "Life Plans" to revive and support their traditions. A quarter century on, these two parallel initiatives have evolved in ways that are surprisingly complimentary – so much so they're starting to converge, and in surprising ways.

By Christopher Pollon, Ann Espuelas and Steve Zwick

Members of the Gavião at the October workshop in their territory

It was a hot day in the Amazon, and 80 or so members of the Gavião indigenous people had gathered under the thatched-roof structure that serves as their town square, clad in blue-jeans, feathered headdresses, and ceremonial beads. On one side of the open-air structure, they'd hung a shroud to block out sunlight – because sunlight interferes with PowerPoint presentations.

The Gavião first made contact with the *djala* – the non-indigenous outsiders – in the 1940s, and they'd seen their forest shrink from a massive, unending world to a small patch surrounded by farms and fields. They and their neighbors, the Arara, have spent a quarter-century fighting efforts to build a hydro-electric dam that threatens to submerge large swathes of their territory.

Catarino Gavião listened patiently as speaker after speaker talk of the benefits of REDD – of how it would help them defend the forest and build a future – he couldn't help but feel he'd heard it all before. Finally, he rose to speak.

"We knew well before First Contact that the *djala* would come to destroy the forest," he said. "How do we know this isn't more of the same?"

The answer lay in the day's agenda, which included the territory's Ethno-Environmental Management Plan (Plano de Gestão Etnoambiental), which is a shared vision for the future of Igarapé Lourdes, the indigenous territory that the Gavião and Arara share. Such plans – often called "Life Plans" (*Planos de Vida*) – have been proliferating across the Amazon for more than 20 years, beginning in Colombia in 1992.

Their objectives often seem nebulous to outsiders: they typically identify and map important hunting and harvesting areas, as well as sacred historical and ceremonial sites, and of course forested areas – categorized by quality of cover and species. But they also aim to create good internal governance and an outward-facing political organization, which is especially important for the Gavião and Arara, according to the most recent draft of their Plano de Gestão Etnoambiental.

The Interplay Between Culture and Commerce

Life Plans are as diverse and varied as the people of the Amazon themselves, but they almost all focus on ways of reviving dead and dying traditions – many of which are related to agricultural practices that evolved over thousands

"You need money to implement the actions and programs that are defined in the Plan. If you don't have finance, you can't start anything."

Delson Gavião, Director General of the Padereéhj Organization

Delson Gavião at the October workshop in the Igarapé Lourdes Indigenous Territory.

of years and have proven to be more resilient (but less efficient) than the modern agriculture that was injected into the Amazon in the last century.

Western farmers, for example, have cleared the forest to grow soybeans and graze cattle. These activities offer efficient production, but they lay bare a clay-like soil that quickly degenerates in the glare of the sun – the exact opposite of a resilient, sustainable farming system. Indigenous people, on the other hand, have tended to prune their forests more than clear them – preserving fruit-bearing trees and clearing small patches for corn or manioc, but abandoning these clearings (except those quite near their villages) after a couple of years so the forest will have time to heal. These strategies aren't as lucrative in the short term as soybean farming or logging, but they're practices that people can use to both feed themselves and nurture the forest for centuries. Up to 10 percent of the Amazon soil is a blend of charcoal and pottery called *terra preta* (dark earth) – a product of even earlier cultures that appear to have added soil to ground rather than depleted it.

Variations of these and other practices are at the center of Life Plans, many of which aim to cultivate indigenous economies built on the harvesting of non-timber forest products such as Brazil nuts and acai, or the sale of handicrafts and the development of ecotourism strategies. While these activities might make money in the long term, the early phases of any Life Plan require training people in everything from marketing and management to horticulture and silviculture, and they often call for building up infrastructure.

"You need money to implement the actions and programs that are defined in the Plan," says Delson Gavião, Director General of the Padereéhj Organization, an indigenous association to which both the Gavião and Arara belong. "If you don't have finance, you can't start anything."

Most indigenous people don't have that finance, and his own people certainly don't. They launched their Plano de Gestão Etnoambiental in 2004, but they've only been able to implement 12 percent of it to-date – largely because they don't have the financial wherewithal to get through the early phases.

Contrast this situation with the neighboring Paiter-Surui community, whose efforts to implement a Life Plan languished as well – until last year.

Today, they're building or expanding more than a dozen of their plan's components – from fish ponds to vocational training to forest monitoring – and they have a budget to carry them through into 2016. They did all of this in part by leveraging the forest conservation aspect of their Life Plan to earn carbon offsets using REDD, which pays them to save and manage endangered rainforest.

But launching what came to be known as the Surui Forest Carbon Project wasn't easy. The Surui – like the Tolo River People – first had to work with consultants to measure the carbon captured in trees, identify the threats to the forest, convert the threats and acreage to carbon emissions, and then calculate emission reductions that would be generated by saving the endangered portion of the forest – all in accordance with complex technical requirements of international carbon accounting standards.

Jurisdictional REDD vs Project-Based REDD

The Gavião and Arara are exploring the possibility of harnessing climate finance as well, and that's what this meeting last October was about. But they're not proposing a stand-alone carbon project ("project-based REDD") – at least not before trying to secure other forms of climate finance. One option is to earn REDD income from the Brazilian state of Rondônia under an emerging "jurisdictional" approach like the one the state of Acre has implemented ("jurisdictional REDD") last year.

In Acre, the state handles the tedious job of carbon-accounting, and the state also earns carbon payments for reducing its emissions statewide, but it then distributes the income internally based on its own criteria. Some of that money is starting to flow to indigenous people, whose activities might not deliver the kind of immediately measurable forest protection that a carbon project would require, but the state believes they're contributing to the overall health of forests – and will thus help reduce deforestation over the long term.

REDD = Life Plans?

The death of a revered leader prevented the Arara from participating in the October meeting, but Catarino and many other Gavião arrived with a long list of familiar questions: if they embraced REDD finance, they asked, would they be selling their forest? Would they be prevented from entering their traditional hunting grounds?

The answer came from Chief Almir Narayamoga Surui, who spearheaded the Surui Forest Carbon Project and had come at Delson's invitation.

"We didn't sell our land or our trees, and we didn't sacrifice any of our rights," Almir said. "We just told the world that we wanted to save our forest, and the world agreed they should help us do so."

He explained that his people carry out traditional and cultural activities on their lands today as they always have, and the only restriction is a moratorium on clearing forest earmarked for conservation – a moratorium endorsed in their own Life Plan and backed by the Paiter-Surui Parliament, but financed by the REDD project.

Juan-Carlos Jintiach, representing COICA

"The buyer [of carbon offsets] does not own the land, the trees, anything," Almir added. "They just pay for the service [of forest protection and carbon sequestration]."

Also in attendance at the meeting was Phil Covell, Associate Director of Project Management and Finance at Forest Trends (publisher of Ecosystem Marketplace). He spent five years advising the Paiter-Surui on their project, and as he flipped through the Igarapé Lourdes Plano de Gestão Etnoambiental, he experienced an epiphany.

"If you guys are able to implement your management plan, that is the essence of REDD," he said. "You plan to maintain your forests in spite of the deforestation pressures all around you, and you point out that alternative income sources are needed, among other elements of your plan, to achieve that goal. That is basically what REDD is about."

Arildo Surui (left) and Almir Surui (right) of the neighboring Paiter-Surui, take questions from members of the Gavião.

What's in a Plan?

At first glance, the management plan that Covell had in his hand didn't look like REDD at all, at least not to a casual observer.

Although it described an economy built around low-impact agriculture, fishing, and the sale of native crafts and non-timber forest products like nuts and copaiba oil (an essential oil renowned for its many health benefits), it didn't mention carbon stocks, reference levels, or any of the other technical features associated with REDD. About the closest it came was a strategy for preventing unwanted incursions by loggers, hunters, and farmers – a strategy that involved the building of strategically-located monitoring stations, the strengthening of cooperation with police and government agencies, and training for indigenous people to function as the eyes and ears of the forest.

Two months later, at year-end climate talks in Lima, Fermín Chimantani echoed Covell's assessment. As co-president of Peru's Amaracaeri Reserve, he presented his people's Life Plan and made an even stronger link between Life Plans and REDD.

Indigenous REDD

Chimantani is one of a growing number of indigenous leaders to embrace REDD+ Indigena Amazonico (RIA), the "Indigenous REDD," effort being spearheaded by COICA. In Lima, he said that Life Plans deliver everything a forest community needs to serve its people and save its forest, and he argued that carbon finance should flow to his people based on these activities, rather than on standards imposed from outside.

"We've been working on our Life Plan since the 1990s," he said. "We've created governance structures; we've valued our ecosystem services – such as water filtration, biodiversity conservation, and evapotranspiration – and we've shown that we can use our indigenous vision to save and manage our forest."

Point-by-point, he argued that by following their Life Plan, his people were already achieving what top-tier REDD projects aspire to: they had empowered women, they had restored degraded habitat for endangered species, and they had created livelihoods built on sustainable agriculture – all activities that led to a healthier forest community, and therefore a healthier forest.

Three generations; one objective: Note the wording on the T-shirt to the left.

"We're implementing a new model in Peru," he said, adding that his people's Life Plan also put them at the negotiating table with local politicians. "Indigenous people are now participating in important issues such as management, preservation activities, and communication with the state and local authorities."

But, like the Igarapé Lourdes plan, his people's effort had also stalled for lack of funds, and he makes the case that their success to-date should qualify them for REDD finance so they can expand their plan to the territory's remaining 23 villages.

"RIA uses indigenous vision to contribute to the climate-change mitigation effort," he concluded. "REDD should adapt to the RIA proposal once it´s implemented, and not the other way around."

Delson Gavião agrees, and says that Life Plans and RIA are two sides of the same coin, if they're done right.

"Life Plans and REDD+ Indigena Amazonico share the same objectives, provided RIA respects the principles of social, cultural, and environmental organization of indigenous people," he says. "Our Plano de Gestão Etnoambiental can serve as a tool to find and articulate financing alternatives that can be implemented through REDD+ Indigena Amazonico."

The state of Acre is already funding Life Plans under a jurisdictional approach to REDD, and if the state of Rondônia – or even the municipality of Ji-Paraná, where Igarapé Lourdes is located – gets its carbon-accounting system in order, then maybe the Gavião and Arara can benefit, too. But what if the state doesn't move quickly enough? Or what about other indigenous people whose forests are under immediate threat now?

In such cases, can Life Plans really attract carbon finance from the carbon market? If so, how hard would it be?

The answer, surprisingly, appears to be yes.

Climate, Community, and Biodiversity: The Life Plan Standard?

The Paiter-Surui, like the Tolo River People, earned their offsets by following a carbon-accounting blueprint created by the Verified Carbon Standard (VCS), which is recognized by offset buyers around the world. But VCS wasn't the only standard they employed. They also earned certification under the Climate, Community, and Biodiversity (CCB) Standards, and this is where the overlap between Life Plans and REDD becomes apparent.

Young members of the Gavião provide a color guard.

While VCS and most other standards emphasize the tedious process of keeping the carbon component honest, CCB Standards emphasize the way a project impacts the people and animals living in an area. These impacts are often called "co-benefits" because they're not the currency in which the project's success is measured to access carbon finance. In practice, however, successful co-benefits make successful projects, because they generate community buy-in and support. In fact, so intertwined are co-benefits and project success that the CCB Standards merged into VCS last year (although the CCB Alliance remains a separate, independent entity).

But can this process adapt to Life Plans, as Chimantani argues it should?

The Chicken or the Egg?

Joanna Durbin, Director of the CCB Alliance, which developed the CCB Standards, says that's exactly what the CCB Standards aim to do.

"We built these standards because there was interest and need from climate-motivated funders to be sure that they knew what they were investing in," she says. "I think it's highly likely that indigenous people have done everything they need to do to meet our standards, and I suspect they've gone way beyond that, but funders need to be sure. Our job is to capture and communicate that, but the question is: How?"

Tracy Johns, Director of Jurisdictional Programs at the REDD project developer Wildlife Works, says the actual carbon accounting can easily be built around an existing Life Plan. After all, scores of methodologies now exist for measuring the carbon content of trees, identifying the immediate threats to the forest, and quantifying the degree to which a project removes that threat. The hard part is reaching out to the communities and formulating a business plan – but those with Life Plans have already done the heavy lifting on that part themselves.

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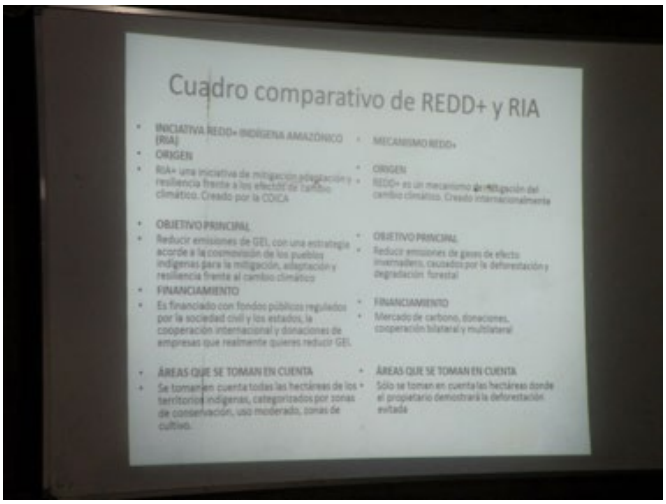
Joanna Durbin,
Director of the CCB Alliance

"Basically, if an indigenous community has one of these plans, and if there's community support for it, but they're having trouble implementing it, then they can bring in a project developer or program designer who can apply all the technical methodologies – look at the roads around them, the logging roads, the farms, etc. – and see what's happening without the plan being implemented," she says. "That's what the Paiter-Surui did. They had this plan already, and they brought in all these technical people who figured what the impact would be on the forest, and they built the project on top of the plan."

Durbin says that it would then be up to buyers if they want to invest.



Even in the Amazon, you can't escape PowerPoint.

"What we'd do is ask them to write them down – to put them into a project design document (PDD)," she says. "Then we put the PDD up for 30 days of public comments, so that everyone – from locals who are there on the ground to experts who are looking at the more technical aspects – can comment."

But projects are, by nature, limited to situations where the threats are so immediate that urgent action is needed. Juan-Carlos Jintiach, the former head of COICA, now acts as a consultant to the organization. He says most indigenous people will end up bypassing markets and going the jurisdictional route.

Another alternative that may hold more short-term promise for Igarapé Lourdes and other indigenous territories is to direct funds from various international agreements. NGOs like ICCO (Interkerkelijke Coördinatie Commissie Ontwikkelingssamenwerking), the development organization funded by churches in the Netherlands, have already begun supporting mitigation efforts in the territory. Other funds, such as the Amazon Fund, established as part of an agreement between the governments of Norway and Brazil, may be extremely difficult to access, but do offer some hope.

"There is a lot of flexibility in how the funds can be distributed," says Jintiach. "And I think there is a growing awareness on the part of funders that all indigenous territories are in danger, even if they don't have historically high rates of deforestation."

This story is available online at:
"Indigenous Life Plans And Carbon Finance: Two Sides Of The Same Coin?"
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10803&section=news_articles&eod=1

5.

Jurisdictional REDD: Long Deferred, Soon Delivered

Forest-carbon projects are now conserving as much forested land as you'll find in all of Malaysia. It's a stunning achievement, but one that needs to get big fast if we're to make a dent in global greenhouse gas emissions. Fortunately, jurisdictions like the Brazilian state of Acre are developing "jurisdictional REDD" programs to do just that..

By Steve Zwick, Kelley Hamrick, and Chris Pollon

> ***"PES is difficult to understand, but it is not rocket science. These are the things that indigenous agroforestry agents have been doing, and the work is getting stronger."***
>
> *Charamaxa Huni Kuin*

Roughly 2,500 years ago, people of the Amazon Basin started blending charcoal with pottery to create a thick, rich soil called *terra preta* (dark earth) – evidence of a now-lost system of sustainable agriculture that enhanced rather than depleted the soil. The practice eventually spread across the continent, and it appears to have sustained indigenous civilizations for centuries.

Terra preta began disappearing shortly after Europeans arrived in the Amazon 500 years ago – an arrival that sparked migration and conflict well beyond their early coastal and river settlements.

Chief José Maria's knows little of this ancient history, but he knows that by the time his people, the Shawãdawa, were officially contacted by Brazilian authorities in the 1900s, they'd abandoned their ancient practices in favor of migratory slash-and-burn agriculture. After contact, decimated by war and disease, they became dependent on modern farming methods that kill the forest, deplete the soil, and poison the rivers.

In 2008, Chief José Maria heard that the government of Brazil's state of Acre wanted to learn his people's ways and the ways of neighboring people like the Ashaninka and Yawanawa. The government's goal was to re-create the long-lost practices that worked so well for so long, and to support them through a legal framework called the System of Incentives for Environmental Services (*Sistema de Incentivos a Serviços Ambientais*/"SISA").

SISA, he learned, would even pay his people to improve the way the forest functioned – the way it filtered water, captured carbon, and fortified the soil. It would pay them, in other words, to keep Acre's agricultural system functioning for centuries to come.

In 2011, he began participating in workshops designed to implement SISA and its "Payments for Ecosystem Services" (PES), but by late 2013, he was tired of talking and anxious to get to work.

"When will PES arrive?" he asked wearily. "We've held about five different meetings…"

The answer came in early 2014, when the state paid R$3.6 million ($1.6 million) to the Acre Association of Indigenous Agroforestry Agents (*Associação do Movimento dos Agentes Agroflorestais Indígenas do Acre*/AMAAIAC) to reverse decades of degradation caused by the shift from forestry to cattle farming and other practices that destroy the forest.

"PES is difficult to understand, but it is not rocket science," says Charamaxa Huni Kuin of the Huni Kuin people. "These are the things that indigenous agroforestry agents have been doing, and the work is getting stronger."

In April of last year, the government put up an additional R$3 million ($1.34 million) to support and implement indigenous Life Plans across the state. Deployment was delayed until later in the year because of anti-corruption laws that prevent big payouts too close to an election, but money is now being doled out in payments ranging from as low as R$50,000 ($22,390) to as high as R$210,000 ($94,000), and it's being used for a broad range of activities – from strengthening land management to promoting associations and communities to generating income for women.

It's all part of the world's first large-scale "jurisdictional REDD" program.

What is "Jurisdictional REDD"?

In some ways, a jurisdictional REDD program is a lot like an individual REDD project, but scaled up to cover an entire jurisdiction – which could be an entire country, or a state within a country, or a region, like Ghana's cocoa-producing area.

Members of the Yawanawa People at a SISA workshop in their territory.
Photo: Laura and Tashka Yawanawa

The basic concept is the same as a project: buyer and seller haggle over how much forest would be lost if business continued as usual, and they agree on a "reference level" that represents a business-as-usual scenario. Then the buyer agrees to pay for activities that reduce deforestation below that reference level.

From a carbon-accounting perspective, the biggest challenge is getting enough random samples over a long enough period of time to offer carbon-stock estimates that are 95 percent certain, which is what the Intergovernmental Panel on Climate Change (IPCC) recommends. That can be costly, because, despite all the advances in satellite and even drone technology, it still requires sending teams out into the forest with tape-measures. Then someone in the jurisdiction – usually in the forestry department – has to blend those findings with satellite images going back decades to document the jurisdiction's land-use change over time – how much forest has been converted to field and then to farm, and sometimes back again.

Once a jurisdiction has this, it's actually *more straightforward* to establish a reference level for an entire jurisdiction than it is for a small patch of land – even if that jurisdiction is a hodgepodge of palm trees, maple trees, farmers' fields, and gulfs and valleys. That's because things average out over a large scale, so a jurisdiction can use its prevailing rates of deforestation as is reference level – a practice that climate negotiators enshrined in the REDD Rulebook in Warsaw at the end of 2013, after eight years of haggling.

The Indigenous Component

Although the basic concept of payments for reduced emissions is the same the world over, every jurisdiction has its own challenges and its own philosophy about how to combat deforestation – which means that each state has a different philosophy about how to spend the money.

In Acre, the money goes into a fund administered by the state, which has promised to funnel at least 70 percent of it to people it defines as providers of environmental services, including rubber-tappers and indigenous groups.

Like Igarapé Lourdes, most of Acre's indigenous territories currently have little or no deforestation. But while Igarapé Lourdes sits on the Arc of Deforestation, many of Acre's territories are so isolated that they'd find it hard to prove

they're endangered under classic REDD carbon mechanisms – despite illegal incursions by loggers that have left several indigenous leaders dead. Here, indigenous impacts can more accurately be measured in terms of habitat conservation and water management, with carbon stocks being a byproduct. SISA, in this case, acts as a conduit between international REDD+ payments and local payments for watershed improvement, riverbank restoration, and scores of other activities.

"International REDD+ payments come into the state denominated in carbon, but the state distributes the money internally via payments for watershed services, payments for habitat restoration, and payments for any number of other actions that are consistent with SISA," says Rebecca Anzueto, a former Program Manager with the Communities and Markets Initiative at Forest Trends. "As long as the state meets its REDD+ emissions-reduction targets, the REDD+ payments should continue to flow."

"International REDD+ payments come into the state denominated in carbon, but the state distributes the money internally via payments for watershed services, payments for habitat restoration, and payments for any number of other actions that are consistent with SISA."

Rebecca Anzueto,
former Program Manager with the Communities and Markets Initiative at Forest Trends

The projects are being selected by the government according to a criteria established by SISA's Indigenous Working Group (GT-Indígena).

"GT-Indígena was created to guide the implementation of the indigenous component of SISA, to figure out, for instance, how to distribute funds and other benefits to local indigenous communities – to answer questions like, 'How will money strengthen land tenure rights? How will this money strengthen the management and governance of territories that have been demarcated?'" says Beto Borges, who heads the Forest Trends Communities and Markets Initiative and sits on the board of GT-Indígena.

"We're talking about 2.4 million hectares of forest being managed by indigenous peoples," he says. "That's 15 distinct ethnicities dispersed among 35 indigenous territories. Their traditional territories have been demarcated. They're official. Now, the new funding from SISA will strengthen the management and conservation of their forests."

Who Pays?

For Acre, the German government stepped up with R$50 million ($24.2 million) through 2018 as part of a $40 million package to promote activities that will reduce greenhouse-gas emissions by 8 million tonnes of carbon dioxide, but the state has several other options for the future.

The state has Memorandums of Understanding with the cities of Rio de Janeiro and São Paulo, and it's a founding member of the Governors' Climate and Forests Task Force (GCF), which then-California Gov. Arnold Schwarzenegger created in late 2008. The GCF launched with linkages among states in the United States, Brazil, Mexico, and Indonesia in a worldwide, sub-national, emission-reduction network. It's since expanded to include states in Nigeria, Spain, and Peru.

Last year, GCF members signed the Rio Branco Declaration, formalizing their commitment to reducing deforestation by 80% by 2020 – but reiterated that the commitment is contingent on adequate funding. Such a reduction would prevent four billion tonnes of carbon dioxide emissions (tCO_2e) from entering the atmosphere.

"It's basically saying, 'Listen, we did what we said we're going to do…we've brought emissions down more than 3 billion tons' – that's bigger than any nation has been able to accomplish," says Dan Nepstad, Executive Director and Senior

Scientist at the Earth Innovation Institute. "Hidden in those words is the idea, though, that we can't sustain this agenda forever unless there's some recognition and finance flowing into our states and provinces. [The Declaration] has got to be seen as the beginning of a process of negotiation and alignment…we can't do it alone."

Through the GCF, individual REDD projects within Acre may one day be able to sell offsets to emitters under California's cap-and-trade program – and, because they're embedded in a jurisdictional program, they won't have the sticky problem of leakage that isolated project face when a tree-chopper just moves down the road.

Nesting

By embedding individual projects in a jurisdictional program, project developers can avoid the sticky issue of leakage – or what happens when deforestation just moves down the road. To do so, however, they need to carefully document the emission-reductions that their projects create and differentiate them from emission-reductions that would have happened anyway.

This is a process called "nesting," and Acre is piloting VCS's Jurisdictional Nesting REDD+ (JNR) framework. Released in 2012, the JNR offers the only comprehensive framework for jurisdictional accounting and verification at this point.

"It's basically saying, 'Listen, we did what we said we're going to do…we've brought emissions down more than 3 billion tons' – that's bigger than any nation has been able to accomplish. Hidden in those words is the idea, though, that we can't sustain this agenda forever unless there's some recognition and finance flowing into our states and provinces. [The Declaration] has got to be seen as the beginning of a process of negotiation and alignment…we can't do it alone."

Dan Nepstad, Executive Director and Senior Scientist at the Earth Innovation Institute

As a state, Acre must also nest its reductions in those of Brazil – which has vowed to slash deforestation 80 percent by 2020, and has been tapping the Amazon Fund to do so.

"When we talk about setting an integrated approach for REDD+ for the Amazon states that is nested at the national level, it might seem difficult, but it's actually much simpler than trying to set the baseline for a project or smaller area," says Pedro Soares, Climate Change Program Coordinator for Manaus-based NGO Instituto de Conservação e Desenvolvimento Sustentável do Amazonas (IDESAM), which was recently hired by the Brazilian state of Rondônia to help it advance a jurisdictional REDD program there.

The Brazil Advantage

Most developing countries are still struggling to develop carbon inventories, but Brazil's National Institute for Space Research (*Instituto Nacional de Pesquisas Espaciais*, "INPE") has been tracking the Amazon from the sky since the 1970s, and its state forestry departments have measured millions of trees. As a result, Acre can document that it lost an average of 0.30 percent of its forest annually from 2000 to 2013, and it can also convert that to carbon stocks with 95 percent certainty.

For Acre to earn REDD income, it had to come up with a plan to get its deforestation rate below 0.30 percent, then it had to find a buyer who believed in their plan and committed to it, and finally, it had to execute the plan – and prove that it did so.

This is essentially the same sequence that jurisdictions around the world are following, although most jurisdictions aren't anywhere near as advanced as Brazil. They've done no carbon inventory, which means they don't know how much carbon is in their forests, and they don't really know the rate at which their forests are being converted to farms and fields.

Members of the Ashaninka People take stock of their natural capital at a workshop in their territory.
Photo Credit: Flavia Cunha

"REDD Readiness"

Now that the REDD Rule Book exists, countries interested in using REDD finance know exactly what's required of them to get ready for REDD. The Norwegian government has spent billions of dollars on REDD readiness round the world, but the World Bank's Forest Carbon Partnership Facility (FCPF) has created a formal process for doing so. A country that wants to go through this process begins by submitting an Emission Reductions Program Idea Note (ER-PIN) to the FCPF's Carbon Fund, which gives them the money they need to take stock of their carbon flows and create an Emission Reductions Program Document (ER-PD), which is the equivalent of a PDD in the voluntary carbon world, but much less rigorous. At that point, "readiness" ends, and "performance-based payments" like Germany's payments to Acre begin. Under the World Bank program, buyer and seller execute an Emissions Reduction Purchase Agreement (ERPA) with the Carbon Fund.

At this point, no countries have gone all the way through the World Bank's process, but Norway, the United States, and the United Kingdom have launched a financing mechanism for jurisdictional REDD initiatives that support commodity-certification programs at the Warsaw climate talks. This program works by leveraging REDD to link initiatives on the ground with emerging efforts to attack the ultimate drivers of deforestation: us, the global consumers of beef, soy, and palm oil.

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http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10976&section=home
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http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10878&section=news_articles&eod=1
"Millions Of Dollars Now Flowing To Indigenous Ecosystem Service Programs In Brazil", which appeared in Ecosystem Marketplace on May 6, 2014
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10332&section=news_articles&eod=1 *and*
"Acre and Goliath: One Brazilian State Struggles To End Deforestation", which appeared in Ecosystem Marketplace on May 5, 2014
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10333&section=home

6.

Bringing It All Together: The Convergence Of REDD+ And Green Supply Chains

Companies worth more than $4 trillion have promised to reduce their impact on the world's forests, and more than one-third of the new pledges came just last year, which more than doubled 2013's total. Now comes the hard part: keeping those promises honest, and helping smaller suppliers adjust to the new demand. Here's how REDD finance can help.

Fast-food companies get a bad rap, but with good reason. Their beef often come from farms and fields that were tropical rainforests just a few short years ago. So does the soy they feed their chickens, and so does the palm oil they use to make their shortening bread. Even their coffee and the paper they use to make their packaging often come at the expense of forests – and let's not even talk about the Styrofoam. But "often" isn't the same as "always," and ultimately, it's we, the consumers, who drive demand – because we do have a choice.

McDonald's, for example, stopped buying beef from the Brazilian Amazon a decade ago, and on Earth Day of this year, it announced that all of its beef, poultry, coffee, packaging, and palm oil would be "deforestation free" within the next five years. On top of that, scores of other companies signed the New York Declaration on Forests late last year, vowing to cut deforestation in half by 2020 and end it by 2030.

But do such pledges matter? And how do we know which ones work and which ones don't? Holly Gibbs of the University of Wisconsin-Madison says there's evidence that voluntary, large-scale moratoriums work – and work faster than REDD under the right circumstances; while the Ecosystem Marketplace initiative Supply-Change.org shows that some individual efforts are, in fact, delivering as well – while others are just beginning to take root, and the basic answer is: it's complicated.

To begin with, consumer-facing companies like McDonald's and Wal-Mart don't raise their cows and soybeans themselves – they buy from middlemen who most of us have never heard of: like Brazilian meatpacking giant JBS (a $45-billion-per year behemoth that's the largest meat-processing company in the world) or Marfrig Global Foods (Brazil's third-largest meatpacker, with a still-stunning $8 billion in yearly sales).

Then there's the legal framework. Brazil has pretty good laws backed by a world-class space agency, but a Forest Trends study showed that about half of all deforestation globally happens illegally – making it hard for companies know what's clean and what isn't, even if they really want to.

Ultimately, what's emerging is a mosaic of market-based mechanisms and legal interventions, all enabled by new technologies and growing consumer awareness. Some of these efforts are already delivering results, while others need to be nudged along – and that may be where performance-based financing like REDD comes into the picture.

Promises Kept

Earlier this year, the Global Canopy Programme published the Forest 500, a list of the 500 entities – private and public – that have the power to end deforestation, and it ranked them according to their deforestation pledges. Shortly afterwards, Ecosystem Marketplace published Supply-Change.org to help everyone track the actual actions that companies are taking to meet those pledges. While these two initiatives where shining a light on individual efforts, Gibbs published research into the effects of two massive, voluntary moratoriums on beef and soy from the Amazon. These weren't individual – and often undefined – promises like the New York Declaration, but binding moratoriums with clear deadlines and means of verification.

The first study looked at the effects of a voluntary 2006 moratorium on chopping trees in the Amazon to plant soy. It was published in January and showed that only 1 percent of new soy production in Brazil came at the expense of the forest. "Before the moratorium, 30 percent of soy expansion [in the Brazilian Amazon] occurred through deforestation, and after the moratorium, almost none did," said Gibbs.

The second study, published in May, looked at the effects of a 2009 moratorium imposed by consumer-facing meat buyers and less well-known but equally critical meatpackers like Brazil's Marfrig Beef. Under the agreement, the meatpackers agreed to stop buying from ranchers who chop the forest, and Gibbs found that deforestation had, in fact, plunged dramatically on participating ranches – but it also increased elsewhere.

Plugging the Gaps

Taken together, the two reports demonstrate the power that demand-driven actions can have – as well as the limitations. In the case of soy, deforestation plunged dramatically within the Amazon under the moratorium, but it increased in the Cerrado grasslands and savanna east of the Amazon. In the case of beef and cattle, some deforestation simply moved down the supply chain – to farms that raise calves and sell them to "fattening farms", which then sell them to slaughterhouses.

"In practice, the agreements regulate only direct purchases from supplying farms, thus ignoring calving ranches and other indirect parts of the supply chain," the beef report says. "Cattle fattened on noncompliant properties with deforestation can leak to slaughterhouses that lack full monitoring systems; these cattle can also be laundered by moving them to a compliant ranch for direct sale to a slaughterhouse."

The biggest problem, however, isn't cattle from deforested land "leaking" into participating slaughterhouses; it's simply the fact that even the global buyers now participating in the moratoriums don't have universal reach – as evidenced by the fact that 80% of Brazil's beef is consumed domestically.

"We monitor more than 8,000 suppliers, but we've cut 2,000 of them off because they don't meet our criteria," says Mathias Almeida, Sustainability Manager at Marfrig Beef, which is a signatory to both moratoriums. "So, we eliminated 2,000 ranches, but they're all, as far as I know, still in business – because someone else has stepped up to buy from them."

For Dan Nepstad, that's where jurisdictional REDD+ comes in – as well' see in a bit.

From Trickle to Torrent

A forester by training, Nepstad has been working in the Amazon for 30 years and now runs the Earth Innovation Institute, an environmental NGO focused on sustainable forest management and rural economics.

"It's great that companies are taking on ambitious goals like zero deforestation supply chains, but when they start implementing that, they bump up against the limits of the farm-by-farm approach," he says. "It's really expensive, and if you have to segregate your product – meaning you're dealing with soy, palm, beef, etc. in separate streams – then it's more expensive."

He says sustainability officers are just now beginning to wrestle with that expense – and the complicated nature of supply chains in general – as they seek to keep the promises their bosses have committed to.

Gibbs agrees on the complication front, but she says the cost of monitoring has been overstated.

"In both the case of soy and cattle, we don't see that these agreements are limiting production or limiting economic growth," she says. "For example, following the soy moratorium, the soy area planted doubled. Following the cattle

agreement, JBS' profitability more than doubled, and the number of slaughterhouses in the Amazon increased by 350% – from 9 slaughterhouses in 2008 up to 32 in 2015."

If companies are continuing to invest, she says, it's because the cost of monitoring isn't much of a burden; but there are, she adds, other challenges that smaller suppliers are struggling to meet – challenges that could overwhelm them if .

And those challenges are about to explode: early analysis of data from Supply-Change.org, published as "Corporations, Commodities, and Commitments that Count", indicates that, while a gaggle of companies have achieved admirable success, it took most of them more than five years to do so. The new wave of companies scrambling to get green have set ambitious – but perhaps overly optimistic – goals to be achieved by 2020.

"It's the dawn of a new decade," the report notes. "It's a nice even number. For the 65 companies that made new commitments in 2014, a commitment year of 2020 was five whole years away. For those stepping up to the plate in 2015, it's only four years away. Then three years in 2016, two in 2017, and so on – until companies should logically consider later target years. But until now, only three in 198 companies report post-2020 goals."

And, the report notes, the number of "goals" with no target date has tripled since 2009 – indicating a lot of talk but little walk. On top of that, roughly 85% of companies making zero-deforestation pledges believe they can simply buy products that are certified low-deforestation.

"That's disturbing," says Nepstad. "It shows a demand for simple, low-cost solutions – but if you look at the complexity of the supply chain and the challenges that a company like JBS (Brazil's largest meatpacking company) is facing, you realize how hard it is to meet that demand."

He's proposing an approach somewhere between the biome-wide a moratoria that Gibbs tracked and the farm-by-farm certification programs currently underway.

Jurisdictional Certification: a Partial Solution?

Nepstad would like to see states – or jurisdictions within states – use REDD finance to build jurisdiction-wide certification programs, so that buyers can trust purchases of several commodities from thousands of suppliers in a given region.

"This way, a company like Marfrig doesn't have to do the farm-by-farm filtering itself, and a buyer in Europe doesn't have to try and understand this complex process," says Nepstad. "Instead, they would know that if they buy from this jurisdiction or that, then they're safe."

Gibbs sees the allure, and says that REDD+ could help top the process off down the road, but she'd rather see an immediate focus on more moratoria.

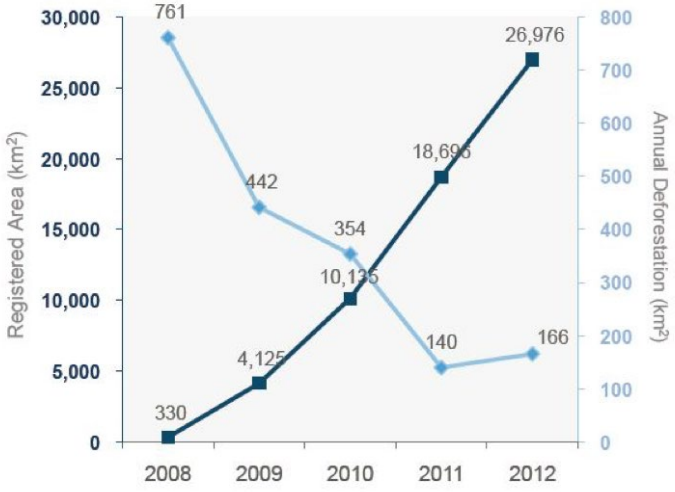
> ***"Jurisdictional REDD+ could be an 'add-on' for supply-chain solutions, but the farm-by-farm monitoring of the Soy and Cattle Moratoria have been demonstrated to lead to changes within months, whereas REDD+ has been a very slow boil over many years."***
>
> *Holly Gibbs of the University of Wisconsin-Madison*

"REDD+, particularly at the jurisdictional level, is still developing, and shouldn't be viewed as a replacement for farm-by-farm filtering that has been demonstrated effective for soy and cattle in the Brazilian Amazon," she says. "Jurisdictional REDD+ could be an 'add-on' for supply-chain solutions, but the farm-by-farm monitoring of the Soy and Cattle Moratoria have been demonstrated to lead to changes within months, whereas REDD+ has been a very slow boil over many years."

Low-Emission Rural Development

Beyond the Brazilian Amazon, the governments of Norway, the United States, and the United Kingdom are using REDD to support sustainable agriculture through the Initiative for Sustainable Forest Landscapes (BioC ISFL), which funnels REDD payments through the World Bank's BioCarbon Fund to smaller forest countries or to individual states within larger nations, beginning with Ethiopia's Oromia State and Zambia's Luangwa Valley. The activities they cover include everything from certification of sustainably-harvested commodities to community conservation, and the amounts are based on how much the countries can reduce their greenhouse gas emissions from deforestation and forest degradation.

Registration and Reduced Deforestation



CREDIT: The Nature Conservancy
Not surprisingly, the greater the area registered under Brazil's CAR system, the lower the rates of deforestation.

Like Acre, the payments aren't offsets – none of the countries will use the reductions to lower their own footprints – and Nepstad advocates the use of the term "LED" (Low-Emission Rural Development). It's a term that The Nature Conservancy and others have also used, and which Nepstad broadly defines as the use of carbon finance to "improve rural livelihoods, create jobs, improve services, increase market access and investment, and protect and restore natural capital."

A Mosaic of Solutions

Ecuadorian indigenous leader Juan-Carlos Jintiach says LED is a cornerstone of his *REDD+ Indigena Amazonico* (RIA), or "Indigenous REDD" initiative.

"If you look at a state like Acre, you see that they used REDD income to support indigenous land-use practices," he says. "I think we can apply a similar strategy in Igarapé Lourdes (the indigenous territory shared by the Arara and Gavião of Rondônia), but we still have some work to do."

The key, he says, is identifying low-cost, high-impact activities that can nudge a state's agriculture sector in a more sustainable direction – and that probably means a mosaic of market-based mechanisms and legal interventions, all enabled by new technologies and growing consumer awareness.

Targeted Spending

Gibbs is leery of regional certification programs, which she says can end leading to pockets of intensified destruction.

"The jurisdictional approach could reward municipalities that could easily comply," she says. "For example, a municipality with little remaining forest or with strong NGO involvement in recent years could be seen as a model, low-risk jurisdiction. The problem is that the high-risk municipalities closer to the forest frontier and with less governance will continue with business as usual, while the moratoria led to change across the entire Amazon including those high risk locales."

She'd rather see REDD finance directed into programs that help small ranchers develop simple technologies that can help them become more efficient.

"We've been encouraging producers to stop clearing forests by intensifying production for years, and they always respond with, 'How?'" she says. "They've repeatedly asked for 'more technical know-how and more financing,' so in my mind, that's something that jurisdictional REDD could provide."

Almeida agrees.

"We have huge amounts of degraded land in the Amazon that can be recovered both for cattle production in a more intensive way or crop production," he says. "REDD can be used to promote technical systems and technology for producers who are engaged in land recovery and intensification."

He also said he'd like to see financial guarantees for take-off agreements to encourage long-term purchasing arrangements with ranchers who follow good practices.

"We have huge amounts of degraded land in the Amazon that can be recovered both for cattle production in a more intensive way or crop production," he says. "REDD can be used to promote technical systems and technology for producers who are engaged in land recovery and intensification."

Mathias Almeida, Sustainability Manager at Marfrig Beef

"Right now, all of our purchases are short-term – like week-to-week," he says. "If we need to buy, or if a rancher needs to sell, we pick up the phone and call around. He sells to the highest bidder, and we buy from the lowest."

Like Nepstad, he also advocates jurisdictional efforts, and offered the state of Pará's Green Municipalities Program (*Programa Municípios Verdes* – PMV) as an example. Developed in partnership with municipalities, NGOs, and the private sector, the PMV helps entire municipalities develop green supply chains by offering tax incentives and also withholding subsidies – which are, to many, the elephant in the deforestation room. A working paper by the Overseas Development Institute (ODI) identified nearly $500 billion in agricultural subsidies worldwide, compared to just $8.7 billion committed to avoiding deforestation.

Laws and the Cost of Compliance

Many countries have laws to protect their forests, but the challenge is finding the money to enforce them. Under Brazil's Forest Code, for example, landowners in the Amazon can only deforest 20% of their land, while those in the Cerrado can only clear 35% for agriculture. The same law requires all private lands be listed in the Rural Environmental Registry (*Cadastro Ambiental Rural*, or "CAR"), and it restricts finance in municipalities with less than 80% of the properties registered.

"Public enforcement of environmental laws is a formidable task in the Brazilian Amazon, which covers an area six times the size of Texas," says Gibbs. "But these market-based interventions are leading to rapid changes in the beef industry within a period of months, even in very remote areas."

In 2013, The Nature Conservancy used satellite data to compare deforestation rates São Félix do Xingu, a municipality in the Brazilian state of Pará, to CAR registration rates and found higher registration correlated with lower deforestation.

Gibbs found the same correlation – but she also found surprising results when she looked to see who was cheating and who was playing fair.

"Only 115 people out of several thousand soy farmers have violated the Soy Moratorium since 2006, but over 600 of them have violated the Forest Code," she says. "So, this same group of farmers is five times more likely to violate the governmental policy than they are to violate the private sector agreement."

She sees a role for REDD finance in helping governments build up their capacity to monitor the forest – a role that it is already playing, in Brazil and around the world – and adds that the one thing everyone agrees on is that no one has all the answers.

"We have a lot of tools now, and none of them are extraneous or irrelevant," she says. "I'm sure there is a need for all of these polices or approaches – but the question is: where and how?"

This story is available online at:
Avoided Deforestation And Green Supply Chains: The Yin And Yang Of Saving Forests
http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10977&section=home

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