

Photographed for New Scientist by Mike McGregor

Never mind cocaine – big farming is far worse

You know something's gone terribly wrong when the deforestation linked to Colombia's cocaine industry starts to seem relatively benign, says biologist **Liliana Dávalos**

How did you get to know about the impact of cocaine production on the rainforest?

It was my own experiences in Colombia, just stumbling across coca growers' plots of land. When I first became interested there were perhaps a couple of publications that mentioned it. Now there's a bunch of labs and more of a community of people thinking about the impacts of these illegal activities.

Where is Colombia's coca crop in relation to the forest?

Coca growers live on the forest frontier between settled lands and natural habitats. In the 1980s there were giant plantations, but they became too conspicuous when satellite-based surveillance came along. So the coca growers adapted and started farming plots smaller than a pixel in the satellite images. Today, growers are constantly nibbling at and hollowing out that frontier.

How does coca actually bring about deforestation?

In the southern part of Colombia, in the Amazonian forests, we found evidence that there's a much greater chance of deforestation close to coca plantations. Even though a tiny area planted with coca could produce sufficient cocaine for the entire world, coca growing is important in the opening up of new lands for exploitation, which is the scary thing from a biodiversity perspective.

Why is it so hard to stamp out coca?

It's a crop that constantly shifts in response to law enforcement efforts. And there's no shortage of criminal gangs waiting to pay good money for your coca. It's like a giant octopus of criminality.

Was it a fear of reprisals that once led you to publish your research under a different name?

In the early 2000s I wanted my work to reach some kind of general audience, so that there would be some discussion about conflict, illegal drugs and their impact on the environment in Colombia. At the same time, politically motivated homicides were hitting a peak. I had to consider that I would be bringing attention to the family members who share my name, so I published under another one of my last names, Alvarez, which is much more common.

Is coca the only cause of illegal deforestation in Colombia?

No. The Bogota branch of the United Nations Office on Drugs and Crime has reported that criminal networks have been diversifying their portfolio, so to speak, and shifting to illegal gold mining, which is a huge concern throughout the Andes.

If you think coca is bad, leaving behind a razed forest, this mining leaves behind a mercury-contaminated landscape that looks like the moon – it's just this barren, horrible land that almost makes you miss the coca growers. That is happening in Colombia, Peru and Ecuador. But the deforestation associated with criminal activity is orders of magnitude less than the mechanised agriculture that has just recently exploded in Colombia.

How is this large-scale agriculture affecting the landscape?

The Llanos of Colombia – natural grasslands interspersed with forests – have giant rivers that may be a kilometre wide, yet still have no name. I grew up in these places. This is a part of the world at the interface with

PROFILE

Liliana Dávalos of Stony Brook University in New York explores the impact of illicit crops and anti-drug policy, and quantifies deforestation from coca production. By night, she is a bat evolutionary biologist

the Amazonian forest, and it has been transformed by mechanised farming. Each farm is hundreds of thousands of hectares, or sometimes millions, and they are being turned into plantations of oil palm, for example.

We looked at satellite data from 2002 to 2007 to find out about deforestation, and in this part of the world it was so off the chart we couldn't even model it. Coca couldn't explain it; population growth couldn't explain it.



the landscape is not solid forest, it doesn't have the kind of vocal ecosystem activists that you have elsewhere. So this destruction has been going under the radar. And it would have gone under the radar for me too, if I hadn't looked at the satellite imagery. The sheer scale of it blew me away. These are millions of hectares taken over by an agriculture that didn't even exist when I was growing up there.

Does the cocaine industry pale in comparison?

I have yet to see anybody come out and say, yay, cocaine. Nobody is doing that. Activists, governments and scientists, we're all fighting it and are on the same side. But when it comes to industrial-scale agriculture and legal mining, we are not all on the same side. Quite the contrary. There's a legitimate international market for these products, products that I may well be buying here in New York, for all I know.

And when it comes to industrial-scale legal mining and agriculture, not only are there two

“Colombia's wilds are becoming a giant plantation so we can have cheap soap”

sides, but the side with the money is very powerful, with influential lobbying groups. So these industries have received tax breaks. Coca growers could never buy such open influence.

Is Colombia's increasing political stability a disaster for wild areas like the Llanos?

Writing as my alter ego in 2001, I published a paper titled “Could peace be worse than war for Colombia's forests?”. I was exploring to what extent Colombia's simmering armed conflict around the drugs trade had kept these mechanised forces of deforestation at bay. The Llanos were either low-productivity or were inaccessible because of some kind of violent conflict, so couldn't be legally exploited. But now the Llanos are open wide. And it is tragic.

Do we need to rethink the reality of deforestation?

Some of us carry with us this image of the endless human population explosion driving deforestation. The reality is that there's a colossal economic entity tirelessly working to satisfy shoppers everywhere. It's something we're all part of, like climate change.

The Llanos are being converted at the speed of light into a giant plantation on behalf of our right to have, I don't know, cheap soap. ■

has skyrocketed. The forests in the Llanos are now mostly gone.

So deforestation caused by legal agriculture is the big problem now?

Yes, deforestation is now due to giant supply chains around the world that produce things in one place and move it around so much that we don't know where soya beans or palm oil in the products we buy even comes from. In Colombia, it's a perfect storm. Because

Interview by Sean O'Neill