





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Brazilian Government Disputes Bleak Amazon Deforestation Outlook

By Brian McDonough
NewsFactor Network
January 29, 2002

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'When you build a new road in the frontier, you almost always initiate large-scale forest invasions by loggers, hunters, and slash-and-burn farmers,' Smithsonian researcher William Laurance told NewsFactor.

A team of Smithsonian researchers examining satellite data has concluded that deforestation in the Amazon rainforest continues at an unnerving rate, despite the Brazilian government's insistence that the once-epidemic destruction is under control.

William Laurance of the [Smithsonian Tropical Research Institute](#) led an analysis of deforestation estimates produced by Brazil's [National Space Agency](#) that were based on detailed satellite images of the Amazon since 1978.

"We felt that nobody had really tested the [Brazilian] government's claims carefully," Laurance told NewsFactor. "Our gut sense was that the numbers wouldn't support their claims, but we wanted to do a really rigorous analysis to make sure any conclusions we drew couldn't be easily dismissed."

However, Roberto Goidanich, who handles environmental, human rights and social affairs issues for the [Brazilian Embassy](#) in Washington, D.C., told NewsFactor that his government's analysis of the figures is correct, and that current deforestation rates are much better than in previous decades.

The Brazil National Space Agency estimates were produced using images from two NASA satellites, the Landsat Multispectral Scanner and Landsat Thematic Mapper, Laurance said. Both satellites are designed to provide accurate measurements of changes in forest cover and land use.

Doing the Math

"We used a rigorous statistical analysis to see if Amazonian deforestation had dropped in the 1990s, relative to the 1970s and 1980s," Laurance said. During the 70s and 80s, a catastrophic rate of Amazon destruction prevailed. "This [decrease] should have happened if -- as the Brazilian government maintains -- deforestation really has been brought under control."

But the team's analyses failed to support the Brazilian government's claims, according to Laurance. He maintained that deforestation increased "sharply" in the latter half of the 1990s.

Most of the numbers cited by Brazilian Embassy spokesperson Goidanich were derived from a

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Brazilian government

report. While they do show a decrease in deforestation from the late 70s to early 90s, they also show a marked increase late in the last decade, as Laurance said.

Goidanich told NewsFactor that the mean gross deforestation rate for the years 1978 to 1988 was 21,130 square kilometers (8,158 square miles); from 1988 to 1998, it was 17,860 sq. km (6,896 sq. miles), a slight drop. However, individual years show an uptick at the end of the 90s:

Mean Gross Deforestation:

- 1989/90 -- 13,810 sq. km (5,332 sq. miles)
- 1990/91 -- 11,130 sq. km (4,297 sq. miles)
- 1991/92 -- 13,786 sq. km (5,323 sq. miles)
- 1992/94 -- 14,896 sq. km (5,751 sq. miles)
- 1994/95 -- 29,059 sq. km (11,219 sq. miles)
- 1995/96 -- 18,161 sq. km (7,012 sq. miles)
- 1996/97 -- 13,227 sq. km (5,107 sq. miles)
- 1997/98 -- 17,383 sq. km (6,712 sq. miles)

Goidanich put the 1998/99 rate around 17,000 square kilometers (6,500 square miles), but did not provide an exact figure.

Question of Interpretation

The Brazilian numbers, then, would suggest that the gross deforestation rate in the last two years of the 1990s had decreased by not quite 18 percent from the rampant deforestation of the 70s and 80s.

Goidanich framed his perspective from the year 1995, when Brazil's own numbers showed an alarming spike in deforestation to nearly 30,000 square kilometers in the 1994/95 period.

"The facts can be interpreted and qualified as you wish," he said. "You could say, for instance, that since 1994/95, the rate of deforestation had in fact shown a trend of decrease -- from 2.9 million hectares to around 1.7 million."

While that is true, the comparison would appear to make the point more that 1995 was a particularly bad year to be a Brazilian tree, rather than that the forest's lot has markedly improved, considering the bigger picture.

"Forest destruction from 1995 to 2000 averaged almost 2 million hectares [20,000 km] a year," Laurance said. "That's equivalent to seven football fields a minute, and it's comparable to the bad old days in the 1970s and 1980s, when forest loss in the Amazon was catastrophic."

Brazilian Efforts

Goidanich pointed to a number of successes claimed by the government in managing the rain forest in recent years. "It is also a fact that the Amazon forest is one of the most well-preserved tropical forests

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in the world," he said. "Eighty-six percent of the original rain forest is still intact -- almost 4 million square kilometers, or 1.55 million square miles. [That is] about 10 times the size of California. Thus, the fear that the Amazon will 'disappear' doesn't seem to be realistic."

Yet his government is concerned, Goidanich stressed. He said the Brazilian Institute for Environment and Renewable Natural Resources is fighting illegal logging and illegal forest fires in the Amazon region. "And in 1996, the Brazilian Forestry Code was amended by a provisional measure which increased the proportion of conservation areas in large private rural properties in the Amazon from 50 percent to 80 percent," he said.

A number of laws have put substantial penalties in place for environmental crimes, he said. "Since 1997, [the government] has seized 1.8 million cubic meters of illegally harvested timber."

The battle against forest fires has also gone well, he said. "In 2000, forest fires were reduced as a result of the preventive measures taken by the Brazilian government," Goidanich said. "The Program to Prevent and Control Forest Fires in the Deforestation Belt contributed to a significant reduction -- 34 percent in the dry season -- of heat spots in the region."

Technology will increasingly come into play, as will increased enforcement manpower, he said. A program to be implemented this year will allow the government to use real-time satellite images of deforestation and forest fires in law enforcement actions.

"More than 100 IBAMA offices in the Amazon region will be integrated, by computers, with the three centers of the Amazon Vigilance System," Goidanich said. IBAMA is the environmental protection agency of Brazil.

Ongoing Threats

Despite the efforts Goidanich cited, Laurance maintained that forest loss is forest loss, and the satellite data as released by Brazil does not show improvement in overall forest loss. He added that his team looked into related factors as a way to mitigate the apparent loss, but did not find any. He said the team factored in the massive population influx into Brazilian Amazonia in recent decades.

"We incorporated data on Amazonian population growth, both for rural and urban populations," Laurance said, noting that the region has a population of 20 million today, up from about 2 million in 1960.

"We wanted to see if the deforestation increases were simply caused by the rapidly growing Amazonian population. But even when we calculated per capita deforestation -- the amount of forest loss caused by each Amazonian resident per year -- there was still a strong increase in forest loss from 1995-2000."

Infrastructure Spending Planned

Laurance stressed that the findings are crucial because the Brazilian government plans to invest over US\$40 billion in new highways, railroads, hydroelectric reservoirs, power lines and gas lines in the Amazon over the next few years. About 5,000 miles of highways will be paved. The government claims that these projects will have only limited effects on the Amazon.


"There's no way you can crisscross the basin with all these giant transportation and energy projects and not have a tremendous impact on the Amazon," Laurance said. "When you build a new road in the frontier, you almost always initiate large-scale forest invasions by loggers, hunters, and slash-and-burn farmers."

While Brazil and the Smithsonian agree on the deforestation numbers, if not their interpretation, Goidanich said Laurance's estimates of upcoming government investment for developing the Amazon were wrong.

"The overall investment foreseen for the Amazon from 2000 to 2007 is around \$12 billion, not \$40 billion," Goidanich said. "Furthermore, the \$12 billion include a series of sectors such as social development, information and environment. The preservation of the environment, and particularly of the rain forest, is a top priority. Infrastructure accounts for no more than \$8 billion."

Still, \$8 billion dollars can buy an awful lot of infrastructure in previously untouched reaches of the rainforest, and Laurance warned that it is tough to put the cat back in the bag once initial incursions are made.

"The scariest thing is that many of the highways and infrastructure projects will penetrate right into the pristine heart of the Amazon," Laurance said. "That could increase forest loss and fragmentation on an unprecedented scale." **END**

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