OPINION

SMALLHOLDERS: DRIVERS OR TARGETS OF AMAZONIAN DEFORESTATION?

Ana Claudia R. Braga

NEPAM,
Center for Environmental Study and Research,
State University of Campinas,
Campinas-SP, Brazil

Alexandre C. Martensen

Department of Ecology &
Evolutionary Biology,
University of Toronto,
Ontario, Canada

As the excitement from the Rio Olympics calms, and the world's gaze turns elsewhere, the harsh realities of life for Brazilian environmentalists remain. The recent murder of social and environmental activist Nilce de Souza in 2016 is not an isolated case (CPT 2016). According to Global Witness (2014), an NGO that protests environmental and human rights abuses around the world, Brazil is not safe for environmentalists. Largely underreported, most assassinations have yet to be solved. That is the case for many, such as environmentalists José Claudio Ribeiro da Silva, Maria do Espírito Santo Silva, Chico Mendes and Sister Dorothy Stang. In fact, more than forty environmental activists are murdered every year in Brazil, comprising almost 50% of all environmental activists murdered worldwide (Global Witness 2014).

But the ongoing murders of environmentalists are not simply the result of conflicting interests over whether to develop or conserve land, common to many debates in political ecology. But rather, the disproportionate murder rates tells us about a long history of smallholder and indigenous people's land dispossession; making Brazil the place with the "most concentrated and unequal" distributions of land on the planet (Oliveira 2001). As a result, smallholders and indigenous peoples must struggle to secure livelihoods, cope with pressures from land tenure insecurity and unequal land markets, which makes defending their lands against encroachment by large landowners, mining companies and logging operations ever more precarious.

Indeed, many of the 448 environmentalists murdered between 2002 and 2013 were family farmers (Global Witness, 2014). The irony here is that many environmentalists in Brazil are in fact family farmers with interests in caring for environments, but who are often blamed for applying "anti-modern" land-use practices, such as slash-and-burn technologies, as opposed to "modern" agro-technologies found among large agribusiness operations. Similar to other rainfor-

est regions, research into the drivers of Amazonian deforestation indicates that most smallholder farmers still rely on slash-and-burn (shifting) cultivation, where forests are felled and burned for crop cultivation. After a few years, these lands are left fallow, while new agricultural fields are created, and the process repeated. It is a dynamic cultivation system in space and time, which tends to reduce old-growth forests, resulting in a mosaic of croplands and secondary forests with diverse stages of growth.

Agrarian scholarship tends to relate smallholders with deforestation in two ways. First, increased population pressure and new market opportunities result in shorter fallow periods, as smallholders maintain less old-growth and mature secondary forest on their land (Jakovac et al 2015). And second, as land values increase and soil fertility decreases due to shorter fallow periods, farmers often sell their properties to land speculators or larger landholders, moving to new forest 'frontiers' to begin the clearing process again. In addition, cultural traditions and food security are often evoked as reasons for why smallholders continue cropping in slash-and-burn systems (Schneider & Peres, 2015). However, our research with small, medium and large landholders in the Tomé-Açu region of the Brazilian Amazon (Pará State) suggests that, a lack of technical assistance, combined with a strong and sometimes violent logging sector and legislative incentives, play significant roles in determining how much forest remains on any given land holding.

Farmer's interviews suggest that, in more established regions of the Amazon, the exclusive application of slash-and-burn techniques is due to lack of access to the market and agricultural technologies. We found that cultural factors or food security demands were less significant factors shaping the use of slash-and-burn techniques. Indeed, in Tomé-Açu, family farmers frequently note that as the market for tropical fruits grows and agroforest management technologies become available, the necessity to expand over native forests is reduced. With scarce technical assistance, smallholders lack access to other agricultural technologies and management practices, and have difficulties reaching different market possibilities (Braga and Futemma in press). In the absence of other alternatives, farmers continue with slash-and-burn strategies (see also Brondízio et al. 2009).

Land grabbing, like elsewhere in Latin America, adds to the precarious lives of small farmers in Amazonia (Oliveira 2011). At the same time, Brazil has a very active land reform movement, spearheaded by the Landless Workers' Movement (*Movimento Sem Terra* or *MST*). This group plays an important role in calling attention to the unequal distribution of land, and making demands for the state to re-distribute land to the landless. However, in the Tomé-Açu region, many stakeholders claim that the main cause of land invasions-cum-deforestation is actually the logging sector's demand for wood, rather than poor landless farmers. In fact, land invaders in the region are informally referred to as members of the "Woodless Worker's Movement" (*Movimento dos Sem Tora,* where '*tora*' means 'log'), instead of the "Landless Workers' Movement". Many of the medium and large landholders we interviewed in Tomé-Açu maintain that land invasions only seemed to occur on forested areas and that, in many cases, the invaded areas were abandoned right after the logging of the valuable wood. One landholder said matter-of-factly: "…what attracts invaders is the wood that is still on the land." Another landholder's description of the grabbing process suggested that current invasions were being coordinated by powerful logging interests. In fact "… they say that the next one [area to be invaded] will be mine, because of the wood, you see?"(Braga fieldnotes 2014; 2015).

In addition, even farmers with large holdings are not immune from the pressure from the logging sector. These farmers insist that they suffered immense pressure, often by way of threats and blackmail, and sold their wood. As one farmer reveals "… look, I have a forest reserve, and every year, about 4 or 5 timber companies come to me asking if I want to sell my wood. The worst has not happened yet because we are organized as a group (cooperative). But, if I lived in a more isolated area and had, say, 1000 ha of forest, and I continued to say 'no' to the timber companies, one day I would be killed. This is how things work here!" (Braga fieldnotes 2014; 2015). Increasingly farmers are faced with the choice to provide wood or die protecting it.

Paradoxically, Brazilian environmental legislation indirectly legitimizes "wood grabbing" from small farmers. Environmental Law in Brazil defines specific policies for land use according to property size. This allows smallholders to have more flexibility in terms of property management, allowing them to maintain a smaller proportion of their overall landholding under forests. But this makes it easy for large land holders to evade forest cover legislation when they acquire land from small holders. When larger properties are created by uniting many smaller ones, the more lenient forest-cover rules that apply to smallholdings get passed along to the new (large) landowner. This same legal flexibility benefits loggers, as long as they can access the forest, loggers can clear a greater amount of wood per unit property on smaller landholdings. Because the state monitoring of logging practices lacks the resources to inspect all farms, particularly small properties, many loggers, with relative ease, mix legal and illegal wood with impunity.

There are many confounding factors that drive forest loss in Amazonia. Directly relating smallholders with deforestation, however popular, is short-sighted. It is imperative to disentangle the influences of the powerful logging sector from the social and agricultural pressures faced by smallholders. The fact is that many of these small farmers are coerced to expand over native forests. As the elevated murder rate of smallholder-environmental activists suggests, farmers who do not align with big and powerful business interests are seen as little more than "a rock in a shoe" ("uma pedra no sapato") and disposed of as such. Blaming smallholders for the deforestation in the Brazilian Amazon misses the complex processes of deforestation and the nuanced and unjust ways forest loss occurs. The tragic death rates of Brazilian environmentalists are interwoven with the "slow violence" of agrarian struggle in Amazonia. In many cases, smallholders and their landholdings need protection, so that their sustainable land use techniques, will lead us to more sustainable--and equitable-- ways to produce and conserve biodiversity in Amazonia, and across Latin America.

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