



## Why releasing mining on Amazonian indigenous lands and the advance of agrobusiness is extremely harmful for the mitigation of world's climate change? Comment on Pereira et al. (Environmental Science & Policy 100 (2019) 8–12)

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### ABSTRACT

The newly published article by Pereira et al. (2019) analyzed the threaten of Brazilian political perspectives to the conservation of Amazonian forest. We highlighted some recent events that has leading Brazilian scientists and environmentalists worried. Mining activities and uncontrolled fire are usually associated to negative impacts on local biodiversity and on ecosystem services supporting traditional populations, such as indigenous people and riverine populations, besides generates tons of toxic wastes. Brazil's president intentions regarding resource exploitation in the Amazon, mostly inside indigenous lands, may lead to catastrophic consequences not only for Amazon biodiversity and traditional populations, but also for the achievement of Brazilian and world's targets of reducing global carbon emissions and to decrease current global warming rates. The active management of these areas is thus essential to preserve their role on climate change mitigation and must be the focus of the Brazilian government, rather than one considering exploring local mining and agrobusiness.

The newly published article by Pereira et al. (2019) analyzed the threaten of Brazilian political perspectives to the conservation of Amazonian forest. The authors highlighted the campaign promises of the Brazil's right-wing president, Jair Bolsonaro, and the cut of funding destined to the Ministry of Environment. Bolsonaro is known for his controversial actions on environmental issues (Abessa et al., 2019), mostly regarding the exploitation of the Amazon (Ferrante and Fearnside, 2019). Thereby, some recent events have been leading scientists and environmentalists worried, and must be included in the list of concerns presented by Pereira et al.

In July 2019, soon after the death of an indigenous leadership being attributed to miners, Bolsonaro emitted intentions to legalize mining inside indigenous lands in the Amazon, by arguing that the indigenous should be able themselves to explore their own lands. It is crucial to understand the importance of such indigenous lands to world equilibrium.

Mining activities are usually associated to negative impacts on local biodiversity and ecosystem services supporting traditional populations, such as indigenous people and riverine populations, besides generates tons of toxic wastes (Tófoli et al., 2017). However, the legalization of

such activities inside indigenous lands may also lead to worrisome negative consequences on other urgent issue: the global climate change. Indigenous territories constitute areas traditionally occupied by large and ethnically diverse groups, being generally well-preserved and providing examples of human populations living in relatively harmony with the environment. These areas also seem to be less prone to deforestation than other types of protected areas, since the use of its resources is usually made with parsimony by local traditional populations (Ricketts et al., 2010). Thus, they are crucial to mitigate the effects of climate change through the maintenance of local environmental conditions and by storing a huge portion of carbon stock in the Amazon (Ricketts et al., 2010).

Another recent event must be mentioned. As Pereira et al. (2019) highlighted, one of the programs from the Ministry of Environment that suffered with the cut of funding was the Environmental Inspection and Forest Fire Prevention and Control of the Chico Mendes Institute, which had a cut of about 20 % of its total budget. After four months since this cut, fire season has arrived in the Amazon, mostly in Amazonas and Rondônia State. However, it had a considerable increase compared to last season, generating a daytime blackout due to the smoke in São

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Paulo, a Brazilian city more than 2700 km away from where the fire started (Bramwell, 2019). Since the Amazon is considered a relatively fire-free biome, the occurrence of fire in the region is usually attributed to land clearance due to land-use change, which involves intentional management of fire that sometimes can escape and become an uncontrolled mega-fire (Carmenta et al., 2019). Thus, current fire management policy is not efficient in avoiding forest degradation, demonstrating the practical problem of cutting funding from the institute responsible for fire management.

The land-use changes, and consequently the fires, are still likely to further increase during Bolsonaro's government, since the interventions that prevent the expansion of soya-bean production in the Amazon are being weakened to cover the demand being placed by China after the beginning of the trade war with the United States (Fuchs et al., 2019). Therefore, it is important to revert this scenario, otherwise we will experience even greater forest losses soon.

President Bolsonaro intentions regarding resource exploitation in the Amazon may lead to catastrophic consequences not only for Amazon biodiversity and traditional populations, but also for the achievement of Brazilian and world's targets of reducing global carbon emissions and to decrease current global warming rates. The active management of these areas is thus essential to preserve their role on climate change mitigation (Ricketts et al., 2010), and must be the main focus of the Brazilian government, rather than one considering exploring local mining or agrobusiness.

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#### Author contributions

LMDV and CFDR contributed equally to this article.

#### Declaration of Competing Interest

None.

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