

## Brazil's COVID-19 response

We read with interest the Editorial<sup>1</sup> about Brazil's response to COVID-19. As Brazilian scientists, we would like to express major concerns about the multiple crises that our country is facing.

Unprecedented rates of biodiversity loss caused by the expansion of anthropogenic activities are major drivers of infectious disease outbreaks (eg, Ebola virus, Nipah virus, arboviruses).<sup>2</sup> The ongoing COVID-19 pandemic has come as a harsh lesson of the social and economic costs of neglecting the interface between biodiversity conservation and public health. Megadiverse countries with high social vulnerability and growing environmental degradation are prone to pathogen spillover from wildlife to humans, and they require policies aimed at avoiding the emergence of zoonoses. In Brazil, clear warnings are the recent emergence of Oropouche virus, hantaviruses, Sabiá virus, and the re-emergence of Chagas disease and sylvatic yellow fever.

The ongoing flexibilisation of Brazilian environmental laws, the dismantling of environmental institutions, the disregard for scientific evidence, and the attacks on conservation organisations have fuelled further deforestation, uncontrolled expansion of agriculture, pesticide misuse, illegal wildlife trade, and poaching. All such actions represent a major setback in socioenvironmental policies, which opens new fronts for zoonotic emergence and negatively impacts biodiversity and public health, putting millions of people at risk. By threatening wildlife health and compromising the provision of ecosystem services, these actions further aggravate the effects of climate change and outbreaks of zoonotic diseases.

To prevent, control, and mitigate the emergence of zoonoses,<sup>3</sup> Brazil

needs to strengthen its public health system, including the One Health framework. We urge for an integrated system for wildlife disease surveillance and monitoring, with strong intersectoral collaboration and coordination between animal, human, and environmental health sectors. Multilateral coordinated support and cross-boundary collaboration are key to building institutional capacity for wildlife management and surveillance. COVID-19 is an irrefutable argument of the necessity to integrate biodiversity conservation, social inclusion, and economic resilience via innovative and sustainable socioproductive chains. Science and social justice need to be enforced as instruments for transformation of environmental and health policy making.

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1 The Lancet. COVID-19 in Brazil: "So what?". *Lancet* 2020; **395**: 1461.

- 2 Díaz S, Settele SJ, Brondizio E, et al. Summary for policymakers of the global assessment report on biodiversity and ecosystem services. Bonn: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019.
- 3 Allen T, Murray KA, Zambrana-Torrel C, et al. Global hotspots and correlates of emerging zoonotic diseases. *Nat Commun* 2017; **8**: 1124.

For the **One Health framework** see <https://www.cdc.gov/onehealth>

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