Far-right political forces in Brazil may push the Amazon to a tipping point

Forças políticas de extrema direita no Brasil podem levar a Amazônia ao ponto de não retorno

Fuerzas políticas de extrema derecha en Brasil pueden llevar a la Amazonía al punto de no retorno

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Abstract

The spatial distribution of votes for the 2022's presidential election in Brazil overlaid with the range of the Brazilian biomes indicated a political division within these ecoregions. A high number of supporters to the far-right concentrated in the southern Amazon, while a concentration of votes for the center-left wing was observed in the most pristine region of the Brazilian Amazon and also in the Caatinga biome. In the Legal Amazon, there was a strong positive relation between the proportion of votes per municipality for the far-right former president Jair Bolsonaro and the total forest loss accumulated in the last 36 years prior to this election (1985-2021) in each municipality. This region with a historical high rate of deforestation also concentrates various crimes and practices that drive environmental and social impacts, such as land grabbing in public land, mining in indigenous territories, illegal logging in protected areas, expulsion of traditional populations and increased use of agro-chemicals and gun permits. The strengthening and continued convergence of these policies and practices may lead the Amazon to a tipping point, which prevents the recovery and maintenance of its ecosystem services, triggering irreversible environmental, social and economic impacts. Reversing this trend depends on measures and actions of the executive, legislative and judicial powers, in all three spheres (municipal, state and federal), and involves the election of local and regional political forces that represent counterpoints to the anti-socio-environmental agendas that are being strengthened in the current context.

Keywords: environmental crimes; arc of deforestation; elections; agrarian conflicts; protected areas.

Resumo

A distribuição espacial dos votos para a eleição presidencial de 2022 no Brasil, sobreposta à extensão dos biomas brasileiros, indicou uma divisão política dentro de algumas ecorregiões. Destacou-se uma prevalência de apoiadores da extrema direita no sul da Amazônia, enquanto uma concentração de votos para a centro-esquerda foi observada na região mais preservada ao norte da Amazônia brasileira e também no bioma Caatinga. Na Amazônia Legal, houve uma forte relação positiva entre a proporção de votos por município para o ex-presidente de extrema direita Jair Bolsonaro e a perda total de floresta acumulada nos 36 anos anteriores a essa eleição (1985-2001) em cada município. Essa região de alta taxa histórica de desmatamento é, também, onde há uma concentração de diversos crimes e práticas que impulsionam impactos ambientais e sociais, tais como grilagem de terras públicas, mineração em territórios indígenas, extração ilegal de madeira em áreas protegidas, expulsão de populações tradicionais e ampliação no uso de agrotóxicos e no porte de armas. O fortalecimento e a continuidade da convergência entre essas políticas e práticas pode levar a Amazônia ao ponto de não retorno para sua recuperação e manutenção de seus serviços ecossistêmicos, gerando impactos ambientais, sociais e econômicos irreversíveis. A reversão dessa tendência depende da atuação dos poderes executivo, legislativo e judiciário, nas três esferas (municipal, estadual e federal), e passa pela eleição de forças políticas locais e regionais que representem contrapontos às agendas anti-socioambientais que se encontram fortalecidas no atual contexto.

Palavras-Chave: crimes ambientais; arco do desmatamento; eleições; conflitos agrários; áreas protegidas.

Resumen

La distribución espacial de los votos en las elecciones presidenciales del 2022 en Brasil, superpuesta a la extensión de los biomas brasileños, indicó una división política dentro de algunas ecorregiones. Se destacó una prevalencia de partidarios de la extrema derecha en el sur de la Amazonía, mientras que se observó una concentración de votos hacia la centroizquierda en la región más preservada al norte de la Amazonía brasileña y también en el bioma Caatinga. En la Amazonía Legal, hubo una fuerte relación positiva entre la proporción de votos por municipio para el expresidente de extrema derecha Jair Bolsonaro y la pérdida total acumulada de bosques en los 36 años anteriores a esta elección (1985-2021) en cada municipio. Esta región con alta tasa histórica de deforestación es también donde se concentra una variedad de crímenes y prácticas que impulsan impactos ambientales y sociales, como la apropiación ilegal de tierras públicas, la minería en territorios indígenas, la tala ilegal en áreas protegidas, la expulsión de poblaciones tradicionales y el aumento del uso de pesticidas y armas. El fortalecimiento y la continuidad de la convergencia entre estas políticas y prácticas podría llevar a la Amazonía a un punto de no retorno para su recuperación y la preservación de sus servicios ecosistémicos, generando impactos ambientales, sociales y económicos irreversibles. La reversión de esta tendencia depende de la actuación de los poderes ejecutivo, legislativo y judicial, en los tres niveles (municipal, provincial y federal), y pasa por la elección de fuerzas políticas locales y regionales que representen un contrapunto a las agendas antisocioambientales que se han fortalecido en el contexto actual.

Palabras clave: crímenes ambientales; arco de la deforestación; elecciones; conflictos agrarios; áreas protegidas.

Introductory Note

A first version of this text was written on an almost emergency basis between the first and second rounds of the 2022 presidential elections in Brazil, which pitted then-president Jair Bolsonaro against Luiz Inácio Lula da Silva. It was a political moment of crossroads and, depending on the outcome, the issue that motivated us writing the present document would have a certain future: the expansion of environmental devastation with serious social consequences, which would lead us to a tipping point in various aspects, but particularly in the Amazon in ecosystem terms. When viewing the map of votes for both presidential candidates in the first round, a non-coincidence was clearly seen: the then president and reelection candidate Jair Bolsonaro won at the polls in municipalities with the highest rates of deforestation. The precision of the congruence of the map of votes for Bolsonaro with the region referred to as the "Arc of Deforestation", an already well-established term in academic literature, was unmistakable and frightening. In face

of this map, the researchers, activists and academics from different segments, who sign the present publication, in the urgency of their time, composed, by several hands, a denouncing text, some writing the basic text, others writing or adjusting specific passages, and all approving the final version. The text was originally written in English, as the aim at that moment was to inform the international community of what was happening and what could be coming. It wasn't published at the time, and the article was put on hold, being progressively updated and polished. As we are about to hold municipal elections in Brazil, in October 2024, and the analysis we carried out was based precisely on the voting by municipalities in the immediately preceding presidential elections (2022), this publication project has resurfaced. Finally, it is important to note that this text is signed by professor, geographer and activist Carlos Walter Porto Gonçalves, who left us in 2023. A few days before his death, we contacted him to ask about the possible publication of the first version of this manuscript, and he promptly replied: "count me in!".

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Brazil, one of the largest western democracies in the world, is a megadiverse country, which harbors two biodiversity hotspots[15], the Atlantic Forest and the Cerrado (Mittermeier *et al.*, 2005) and three wilderness areas[16], the Pantanal, the Caatinga and the Amazon (Mittermeier *et al.*, 2002). The latter is the largest tropical forest, and compounds the largest ecotone on the planet, in the transition zone with the dry forests of the Cerrado. In the last three decades, this continental-sized South American country has faced a succession of disruptive events in its recent democratic history – namely two impeached presidents, the imprisonment of the front-runner for the 2018 Presidential elections based on lawsuits later extinguished by the Supreme Court, threats to the Supreme Court by far-right politicians, attacks by far-right politicians to the credibility of the well-established electronic voting system used since 1996. In October 2022, the country faced the ninth

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[15] Hotspots is a concept that refers to the 35 ecoregions in the world with the richest and most irreplaceable biodiversity, identified primarily by exceptional levels of plant diversity and endemism (>1,500 species) and, at the same time, which are highly threatened, with an accumulated loss of 70% or more of their original vegetation cover.

[16] Wilderness areas is a concept that refers to 37 large natural ecoregions with high biodiversity that are still relatively well preserved, characterized by maintaining at least 70% of their original cover and having population densities of less than five people per square kilometer. Despite being much less threatened than the Hotspots, these areas are under increasing threat from human action.

and one of the most disputed presidential elections after the military dictatorship left power in 1985. This was followed by protests and an attempted assault on the date of the president-elect's graduation from the Supreme Court, on December 12, 2022, and the invasion of the buildings of its three political powers – the judiciary, the parliament, and the presidential palace – a few days after his inauguration, on January 8, 2023. Both events were allegedly promoted by far-right economic and political forces, which supported the far-right past president Jair Bolsonaro and advocated for a coup d'état against Luís Inácio Lula da Silva, who was elected to his third presidential term representing a wide center-left coalition.

The far-right government of Bolsonaro (January/2019-December/2022) is accused of involvement or negligence in many environmental and social crimes and scandals. Despite the entangling relations between some of these subjects, we will not focus on Bolsonaro's disastrous and criminal handling of the COVID-19 pandemic (Ferrante; Fearnside, 2020; Khoo; Floss, 2022) or his disrespect for women, ethnic minorities, and science (Rodrigues, 2022). However, it seems clear that the political and financial support of economic sectors for an anti-democratic uprising is strongly related to the anti-environmental agenda of far-right Brazilian politicians (Fernandes *et al.*, 2023). In light of this, we highlight the spatial congruence between the deforestation rates during Bolsonaro's term and the biogeographical regions where the far-right won most of the votes in the first round of the 2022 presidential elections, especially in the Legal Amazon. This not only indicates where lays a substantial part of the economic and political support to a far-right anti-environmental agenda in Brazil, but also it helps to understand the stated and subliminal endorsement by far-right leaders to a political agenda of predatory environmental practices hidden under an ultranationalist speech (Mitidiero Jr; Goldfarb, 2021; Pompeia, 2024).

The results of the first round of the last Brazilian presidential elections, on October 2nd, 2022, highlighted the division of the country in electoral regions with a high concentration of municipalities which supported the former far-right President Jair Bolsonaro, and clumps of municipalities which supported the leader traditionally identified with the left Lula da Silva. Lula was finally elected for his third presidential term (2003-2006; 2007-2010; 2023-2026), representing a coalition of center and left parties, essentially around a democratic agenda, but also compromised with social

demands and environmental protection. Excepting for the Caatinga, where Lula won in 97.2% of the municipalities, the election outcomes were more balanced in the other biomes, or ecoregions. Considering the 764 municipalities of the Legal Amazon, Lula won in 499 (65.3%) municipalities where most of the pristine Amazon is held. Meanwhile, Bolsonaro won in 265 municipalities (34.7%) which concentrates 70% of the forest loss in the Amazon in the 36 years prior to this election (1985 – 2021; MapBiomas Project, 2022).
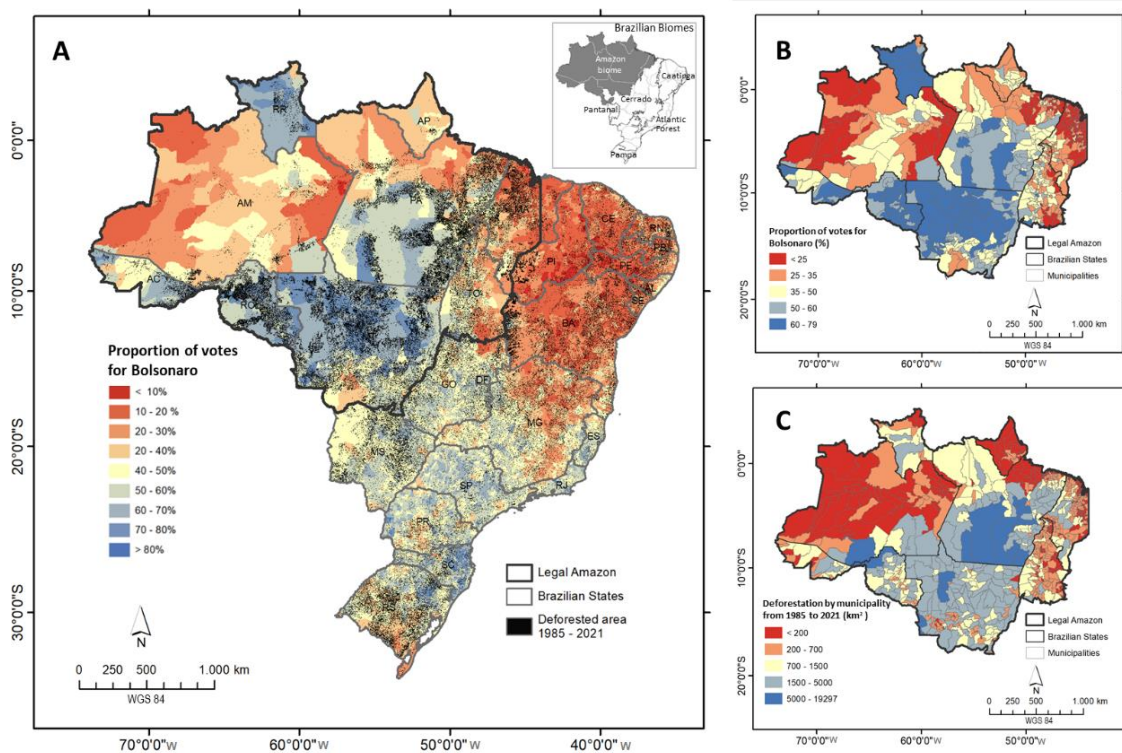
In the Legal Amazon, those municipalities with the highest proportion of votes for Bolsonaro are in the so-called Arc of Deforestation and along the highways BR163 and BR319 (Map 1 A) (Ferrante; Andrade; Fearnside, 2021), where most of the environmental crimes and scandals in Brazil have occurred under Bolsonaro's term, such as the worldwide known "Fire Day" (Motoki, 2023). The spatial relation between the proportion of votes for Bolsonaro and the total forest loss in 36 years in the municipalities of the Legal Amazon is confirmed by a Spearman Correlation Coefficient of 62% (Map 1, B and C). In the same period, there were an average loss of 19.9% of native vegetation area in the municipalities where Bolsonaro won, which is about three times the average loss in municipalities where Lula won (6.3%) (Figure 1). A similar outcome was observed in the second round of the presidential elections (October 30th). However, subtle differences in the outcomes of the first and second rounds may be attributed whether to vicious political campaigns or to illegal manipulative actions with the use of the State, such as the targeted detention of vehicles driving likely voters for the opposition candidate by the Federal Highway Patrol, which is why we focused our analysis on the results of the first round. We may infer that this territorial congruence is related to the financial and rhetorical incentives to environmental predatory practices, and the lack of law enforcement during the far-right government, which have permitted the action of land-grabbers, illegal miners, and illegal loggers (Mitidiero Jr; Moizés; Martins, 2022; Instituto Escolhas, 2022).

Map 1

(A) Proportion of votes for Bolsonaro by municipality on the first round of the 2022 presidential elections (Superior Electoral Court, 2022), overlapped by the area of native vegetation deforested from 1985 to 2021 (Project MapBiomas, 2022);

(B) Proportion of votes for Bolsonaro in the Legal Amazon; and

(C) Total area of native vegetation deforested from 1985 to 2021 in each municipality of the Legal Amazon.

Fonte: Superior Electoral Court (2022); Project MapBiomas (2022).

Figure 1

(A) Map of the Legal Amazon municipalities with most of the votes for Bolsonaro in blue, and for Lula da Silva in red, in the first round of the 2022 presidential elections (Superior Electoral Court, 2022).

(B) Bar graph with the average proportion of native vegetation deforested by municipality in the Legal Amazon from 1985 to 2021.
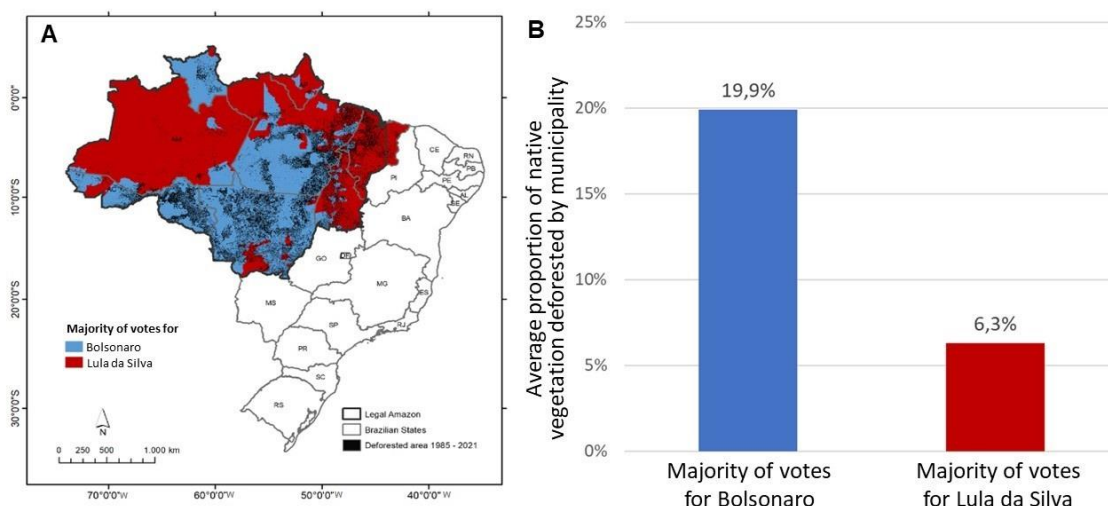
Fonte: Superior Electoral Court (2022); Project Mapbiomas (2022).

Deforestation in the Brazilian Amazon soared after the far-right took office, and remained above 10 thousand km²/year, a level not reached since 2008 (National Institute for Space Research – INPE: Satellite Monitoring of Deforestation in the Legal Amazon Project. – PRODES, 2022). In the first year of his presidential term, the deforested area peaked at 10.1 thousand km², which is more than twice the 4.6 thousand km² deforested in 2012, during the term of former president Dilma Rousseff's term (2011-2015), a Lula's ally. This rate is also about 35% higher than the yearly average of ca. 7.5 thousand km² deforested area recorded under center-right President Michel Temer (2016-2018). This trend continued in the following three years, with 10,900 km² of deforested area in 2020, 13,000 km² in 2021 (the highest rate since 2006, in the beginnings of the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon - PPCDAm), and 11,600 km² in 2022. The deforested area accumulated during the four years of Bolsonaro's presidency was about 45.6 thousand km², an area larger than the Brazilian

state of Rio de Janeiro or more than twice the territory of Israel. Moreover, this was 208% higher than the 21.9 thousand km² deforested area during Dilma Rousseff's first term (2011-2014). In the first year of Lula's third term (2023), the rate of deforestation in the Amazon was reduced by 40%, evidencing the resumption of a prioritization of environmental governance, even with the reduced budget for law enforcement, monitoring and combating against environmental crimes left by the previous government.

Most of the Brazilian far-right politicians are enthusiastic defenders of an old-fashioned agenda of timber logging, mineral and land exploitation over pristine environments, and they use their political power to publish infra-legal instruments and to approve laws in the Brazilian congress to deregulate environmental protection (Carvalho *et al*., 2019; Lima *et al*., 2020). This mode of action was defined by the Bolsonaro government's environment minister, Ricardo Salles, as "passing the cattle and changing all the rules and simplifying regulations". Moreover, during this political spectrum's recent term in the Executive Power, not one federal protected area was created and 'not a single centimeter more for indigenous land' – a quote from Bolsonaro himself – was decreed. Those are legally protected territories where biodiversity is conserved, so the logical relationship is that more such protected lands are needed to safeguard the Amazon and mitigate, for example, the climate crisis. However, under Bolsonaro's government, the environmental protection of the Brazilian forests was deeply undermined, not only due to Bolsonaro's criticisms and political attacks of the Brazilian environmental (Chico Mendes Institute for Biodiversity Conservation – ICMBio; Brazilian Institute of the Environment and Renewable Natural Resources - IBAMA) , spatial (INPE), indigenous (National Foundation of Indigenous Peoples - FUNAI) , geographic and statistical (Brazilian Institute of Geography and Statistics - IBGE) official agencies, but also by the underinvestment and the reduction in their effective operational and legal power. These agencies are responsible for enforcing the law on-the-ground, executing public policies for gathering information and managing the national territory, and have been suffering with reduced teams due to a lack of replacement staff via public selections and relatively underpaid compared to other careers in the federal public service.

During the far-right government, the Minister of the Environment Ricardo Salles and the former Minister of the Agriculture Tereza Cristina da Costa Dias left their offices with profound negative records, such as the increase in the exploitation and exportation

of illegal timber, and the approval of hundreds of agrochemicals many of which are forbidden in the European Union (Bombardi, 2017). Furthermore, the political and economic pressure to invade and remove indigenous, traditional and peasant communities from their land have resulted in violence against these vulnerable people, which were constantly threatened, displaced and murdered with no effective protection by the federal or local authorities. Other crimes are also territorially related to the Amazonian region where Bolsonaro had more votes, such as the contemporary slavery historically employed in cattle ranches associated with land-grabbing, illegal deforestation and forest fires (Oliveira, 1997; Pastoral Land Commission - CPT, 2024). The association of environmental destruction and crimes against humanity in Brazil are the bases for one of the largest concentration of lands in the world (OXFAM, 2016). Most of these large properties are laid in the Amazonia – Cerrado ecotone and are used for the cattle raising and the production of commodity crops (mostly soybean) for exportation. Along with the use of mercury in illegal gold mining, the use of agrochemicals by the agribusiness is a huge threat to the riverine wildlife and to local communities dependable of fishery, such as *ribeirinhos* and indigenous people (Bombardi, 2017). The Amazon is the Brazilian biome with the largest proportional increase in the number of rural properties per municipality using agrochemicals on their crops, and also the biome with the largest increase in the number of people intoxicated by agrochemicals, in a typical "silent violence" as proposed by Bombardi (2017).

The bucolic life represented in publicity campaigns, which serves as propaganda for Brazilian agribusiness, presents a mixture of traditional values and old-fashioned pioneering with high-tech devices and financial success. This aesthetic is ethically and numerically confronted by the raising violence in the Brazilian countryside (CPT, 2024). The number of shooting ranges, usually frequented by higher-income citizens who support the far-right, steeply increased on the Amazonian agricultural frontier after Bolsonaro's government deregulated gun control laws. Furthermore, along the Cuiabá-Santarém highway, where most of the crop harvest is carried in trucks to leave the country by the Amazon River Basin, billboards with fascist sayings were fixed near soybean silos. "God, Country, Family", the motto of a Brazilian fascist movement from the 1930`s, so-called *Ação Integralista Brasileira*, is frequently used by far-right leaders and his followers. Fear and tension raised among indigenous people, traditional and

peasant communities, environmentalists, environmental scientists, estate agents and journalists (Mitidiero Jr.; Moizés; Martins, 2022).

The election of far-right politicians in Brazilian municipalities with high rates of deforestation might strengthen anti-environmental policies and put at risk not only an enormous cultural and environmental heritage, but also human lives. This association has been proven in recent years in the Yanomami Indigenous Land, with the escalation of illegal mining and the lack of government assistance, leading to the scandalous deaths of hundreds of indigenous people and risking territorial and environmental governance in the region. The continuation and strengthening of these policies may, in a few years, bring the Amazon to a tipping point[17] for its recovery and maintenance of its ecosystem services, generating irreversible environmental, social and economic impacts, and making serious adverse contributions to the climate crisis (Lovejoy; Nobre, 2018; Science Panel for the Amazon, 2021; Boulton; Lenton; Boers, 2022; Flores *et al.*, 2024). Thus, continued sipport, including electoral support, for aligned political positions such as those described here could lead to the irreversible loss of biodiversity and negative impacts on Brazilian food and energy production. This risk will come to the fore again in 2024, when Brazil's more than 5,500 municipalities will choose their mayors and city chambers, which is highly influenced by previous national elections and usually has a decisive electoral effect on subsequent ones.

In the years prior to the right-wing governments (2003-2015), the protection of the Amazon – evidenced by the drastic reduction in deforestation, creation of protected areas and policies for indigenous territories, was accompanied by an increase in beef and grain production. These simultaneous advances were forged by government policies and investments in science, technology, education and research institutions, concomitant with huge economic incentives for the rural productive sector, mainly for large export monocultures. Nevertheless, a significant part of this increase in production has obviously caused very serious socio-environmental problems. Despite this, in Brazil there is strong political coordination between unions, social movements and some politicians committed to land reform based on agroecological production, the promotion of family farming and

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[17] A tipping point is understood as the critical limit of environmental stress at which a small disturbance can cause an abrupt change in the ecosystem, accelerated by positive feedback and entering a phase of uncontrolled self-reinforcement, with the ecosystem progressively and irreversibly losing its resilience, although it still theoretically remains close to equilibrium (Flores *et al*., 2024).

the protection of the rights of rural workers, peasants and indigenous peoples. In the early 2000s, through social movements in the countryside, such as the Landless Rural Workers' Movement (MST), a large number of peasants obtained the right to a piece of land through the Rural Settlement Projects, moving from being landless to being small rural producers. Thus, what seems to be a utopian political formulation, reconciling demands of the environmentalists, scientists, peasants, and rural producers who don't adopt nature-destroying technologies, may not be impossible.

The future of the Amazon depends on the success of the current federal administration of Brazil to formulate and implement policies to protect the Amazonian biodiversity and its people. Lula's speech at the United Nations Climate Change Conferences COP27 (Egypt, 2022) and COP28 (United Arab Emirates, 2023) and part of the environmental results in the first year of his third term (2023) indicate a commitment to reduce the Brazilian contribution to the biodiversity loss and climate crisis. However, there is still a gap between Brazil's discourse on the international stage and its concrete actions to combat climate change and guarantee the conservation of biodiversity and socio-biodiversity (Machado *et al.* 2024). In this context, the far-right politicians are still a relevant force in the country (Pompeia, 2024) and Brazilian democracy, biodiversity and vulnerable communities are still at stake. State Governors, mayors, congress members, local courts, and economic forces - such as the agribusiness, the infrastructure sector, the financial market lobby and other political financial supporters, can contribute decisively (or not) to controlling deforestation at a regional level, by approving and enforcing laws to strengthen or weaken environmental protection. This historical time in Brazil drags the world's attention, because external financial and political support, together with the policies and commitments that the Brazilian state must make, are crucial to consolidating the country's young democracy around a socio-economic development that guarantees social and environmental justice, with better distribution of wealth, respect for its multi-ethnic people and protection of its admirable biodiversity, much of which is concentrated in legally protected public lands in the Amazon, such as protected areas and indigenous territories.

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