GLOBAL INFORMATION SOCIETY WATCH 2020

Technology, the environment and a sustainable world: Responses from the global South

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BRAZIL

WALKING THROUGH THE FIRE: OPEN DATA AND THE ENVIRONMENTAL CRISIS IN BRAZIL

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Introduction

Deforestation is a historical key concern in environmental policies in Brazil. Among structural inequalities around sustainability in the Amazon Rainforest, economic forces have always pressured for more areas destined for the mining, logging and agriculture industries.[1] Not only natural resources face threats from the economic powers; peoples and cultures are equally affected, as Indigenous and Quilombola communities – historically colonised and traditionally connected to environmental preservation – resist the growing deforestation.

As a strategy to preserve the rights of traditional communities and monitor the sustainability of the environment, legal frameworks have been created and technologies implemented over the last 20 years. Protocols of transparency and open data were updated, taking into account international standards, and the work of public and private social entities became central to achieving environmental goals.

More recently, with the ascension of an authoritarian president, a far-right-wing opponent of human rights,[2] the sustainability of the Amazon and the native peoples' rights agenda was deeply dismantled. In a government distant from democratic practices, cases of public data manipulation, censorship of research outcomes and negligence in relation to the government's online platforms for transparency are a reality in Brazil today.

The Sustainable Development Goals in Brazil have taken a step backwards in decades. Because of this, the future of open information, the environment and Indigenous culture are at great risk.

Background

Transparency, open data and access to information policies in Brazil, including their expressions in environmental policy, have seen considerable development over the past 20 years. This involved the creation of the federal government's Transparency Portal in 2004; the so-called Transparency Law in 2009; the Law on Access to Information in 2011; the foundation of the Open Government Partnership – a partnership between civil society and governments, of which Brazil is a founding member – in 2016; and the regulation of the Open Data Policy in Brazil in 2016.

Policies for the protection of the environment and the demarcation of Indigenous lands have also resulted in an institutional apparatus specialised in guaranteeing the rights of native peoples and in the inspection and publication of environmental data. Various institutions and platforms form a network for observation and knowledge production, such as the National Institute for Spatial Research (INPE), in charge of monitoring deforestation in Brazil via satellites; the National Forestry Information System (SNIF), a platform for collecting, processing, storing and disseminating data on forests; the National Indigenous Foundation (Funai); and the Climate Observatory.

Takedown of data, voices, forests and lands

However, the current administration's disrespect for human rights directly impacts the dismantling of open data, environmental preservation and policies on Indigenous rights.[3] Jair Bolsonaro has already referred to the Brazilian Indigenous peoples as "smelly", "animals in the zoo"[4] and "a manipulated mass"[5] and said that he would give weapons to farmers to "clear" these lands.[6] Moreover, Minister of Agriculture Ricardo Salles said that the government

1   Barbosa, C (2019, 5 September). Pecuária é responsável por 80% do desmatamento na Amazônia, afirma pesquisadora. *Brasil de Fato.* https://www.brasildefato.com.br/2019/09/05/pecuaria-e-responsavel-por-80-do-desmatamento-na-amazonia-afirma-pesquisadora

2   Amnesty International. (2020). *Human rights in the Americas: Review of 2019.* https://www.amnesty.org/download/Documents/AMR0113532020ENGLISH.PDF

3   Silva, R. A. (2020, 11 February). As 26 principais violações ao meio ambiente feitas por Jair Bolsonaro. *Carta Capital.* https://www.cartacapital.com.br/blogs/brasil-debate/as-26-principais-violacoes-ao-meio-ambiente-feitas-por-jair-bolsonaro

4   Marques, C. J. (2020, 14 February). Bolsonaro se lixa para os índios. *Istoé.* https://istoe.com.br/bolsonaro-se-lixa-para-os-indios

5   Soares, I. (2020, 7 June). Bolsonaro critica demarcações e diz que índio "sempre foi massa de manobra. *Correio Braziliense* https://www.correiobraziliense.com.br/app/noticia/politica/2020/06/07/interna_politica,861849/bolsonaro-critica-demarcacoes-e-diz-que-indio-sempre-foi-massa-de-man.shtml

6   https://www.youtube.com/watch?v=jUgDXVbPHZs

should take advantage of the media attention focused on the coronavirus pandemic and bypass the environmental legislation.[7] Among numerous other anti-environmental measures, Bolsonaro's administration ended the Secretariat for Climate Change and two Amazon Fund Committees, in which civil society entities participated as oversight stakeholders.[8]

Censorship in research work and in the publication of open climate data is a pattern in the Bolsonaro government and is directly related to its pro-agribusiness agenda. In August 2019, INPE's director, Ricardo Galvão, was discharged after the agency released data, collected via satellite, which demonstrated record deforestation in the Amazon.[9] In July 2020, the release of new data on the high rates of forest devastation resulted in the resignation of Lúbia Vinhas, researcher and coordinator of the Earth Observatory, a department of INPE.[10] In addition, at the end of the first year of the Bolsonaro government, 43% of the databases were out of date, in addition to several transparency portals, such as SNIF's and Funai's websites.[11]

Forest and environmental devastation data burning

Brazil is one of the top countries in terms of biodiversity and natural resources: 58% of the country's total surface area is covered by forests[12] and natural biomes. It has the second highest forest area in hectares according to the latest Global Forest Resources Assessment.[13] One of the country's most valuable environmental resources is the Amazon Rainforest, the world's largest tropical forest, which spans across eight different countries and has 64% of its total area located in Brazil[14] – what is called the Brazilian Legal Amazon (BLA)[15] is made up of regions in nine Brazilian states.

Recently, Brazilian Amazon fires became the subject of significant global attention due to an intense engagement in social media that raised awareness of the increase of fires in 2019. After a massive smoke cloud covered São Paulo's sky, it came to public attention that the Amazon was "burning". INPE claimed that the Amazon fires had increased by 84% when compared to the same period in 2018.[16]

As mentioned before, INPE's former director Ricardo Galvão[17] was in the middle of a controversy in 2019 due to the disclosure of data related to a rise in the rate of environmental devastation. Right after the data was released, Bolsonaro and the current Minister of the Environment Ricardo Salles said that they would publicly contest it, accusing Galvão of inconsistency and possible "damage" of "Brazil's international image". INPE was founded in 1971 and Galvão had served at the institute since 2016 – he was also recognised by *Nature*[18] as one of "ten people who mattered in science in 2019" as a science defender.

Using satellites, INPE systematically maps the Legal Amazon and has been responsible for generating yearly deforestation reports for the region since 1988. As part of the Amazon and Other Biomes Monitoring Programme (PAMZ+), different initiatives, such as the Programme for Monitoring the Brazilian Amazon Forest by Satellite (PRODES) and the System of Real-Time Deforestation Detection (DETER), were created by the institute and represent a large database that is currently under threat.

With the aim to democratise data access and organise public databases, INPE also developed

7   Greenpeace Brasil. (2020, 23 May). Ricardo Salles deve ser retirado imediatamente do Ministério de Meio Ambiente. *Greenpeace*. https://www.greenpeace.org/brasil/blog/ricardo-salles-deve-ser-retirado-imediatamente-do-ministerio-de-meio-ambiente

8   Brasil de Fato. (2020, 5 June). "Passar a boiada": política ambiental de Bolsonaro é alvo de ações na Justiça. *Brasil de Fato*. https://www.brasildefato.com.br/2020/06/05/passar-a-boiada-politica-ambiental-de-bolsonaro-e-alvo-de-acoes-na-justica

9   Novaes, M. (2019, 2 August). "Constrangimento" com Bolsonaro por dados de desmatamento derruba diretor do Inpe. *El País*. https://brasil.elpais.com/brasil/2019/08/02/politica/1564759880_243772.html

10 Kafruni, S. (2020, 13 July). Coordenadora do Inpe é exonerada após dado de devastação desmentir governo. *Correio Braziliense*. https://www.correiobraziliense.com.br/app/noticia/politica/2020/07/13/interna_politica,871770/coordenadora-do-inpe-e-exonerada-apos-dado-de-devastacao-desmentir-gov.shtml

11 Lima, R. (2020, 7 January). Governo federal fecha ano com 43% das bases de dados defasadas. *Metropoles*. https://www.metropoles.com/brasil/governo-federal-fecha-ano-com-43-das-bases-de-dados-defasadas

12 FAO. (2020). *Final evaluation of "Strengthening national policy and knowledge framework in support of sustainable management of Brazil's forest resources".* Project Evaluation Series, 04/2020. https://www.fao.org/documents/card/en/c/CA8491EN

13 FAO. (2020). *Global Forest Resources Assessment 2020: Main report*. https://www.fao.org/documents/card/en/c/ca9825en

14 Global Forest Atlas. (2020). *The Amazon Basin Forest*. Yale School of the Environment. https://globalforestatlas.yale.edu/region/amazon

15 The Brazilian Legal Amazon (BLA) corresponds to the area under the responsibility of the Brazilian Superintendency of the Development of the Amazon (SUDAM). The BLA is the region formed by the states of Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins and Mato Grosso, and by municipalities of the state of Maranhão. https://www.ibge.gov.br/en/geosciences/maps/regional-maps/17927-legal-amazon.html?=&t=o-que-e

16 BBC. (2019, 21 August). Amazon fires increase by 84% in one year - space agency. *BBC*. https://www.bbc.com/news/world-latin-america-49415973

17 Phillips, D. (2019, 2 August). Brazil space institute director sacked in Amazon deforestation row. *The Guardian*. https://www.theguardian.com/world/2019/aug/02/brazil-space-institute-director-sacked-in-amazon-deforestation-row

18 https://www.nature.com/immersive/d41586-019-03749-0/index.html

TerraBrasilis,[19] a web portal/platform with geographic data generated by the above-mentioned programmes. One of the platform's coordinators, Lúbia Vinhas, was recently removed from her position and transferred to a "new strategic role", according to Minister of Science and Technology Marco Pontes.[20] However, Vinhas' dismissal came days after INPE's announcement of the increase in the rates of deforestation, which showed an increase of 25% in comparison to 2019.[21]

There are other information systems such as the National Environmental Information System (SINIMA) that collects and organises Brazilian natural resources data. The system is one of the instruments of the National Environmental Policy, and is intended as a "conceptual platform based on the integration and sharing of information between various existing systems", created and maintained by the Brazilian Forestry Service (SFB). The SFB is responsible for maintaining the National Forest Information System (SNIF) that manages data on forests in order to support evidence-based policies and projects for their conservation.[22] In 2019, the SFB was transferred from the Ministry of Environment to the Ministry of Agriculture, Livestock and Supply[23] in a clear attempt to dismantle the environmental protection ecosystem and weaken the Ministry of Environment.

Brazilian Environment Minister Ricardo Salles himself was involved in several scandals related to undermining national regulation on environmental protection. In early 2020, he called on the government to push for the deregulation of environmental policies while people were distracted by the coronavirus pandemic. This was captured in a video that the Supreme Court ordered to be released due to an investigation involving Bolsonaro. Following this, the Talanoa Institute and the newspaper *Folha de São Paulo*[24] mapped a significant increase in the number of acts passed by the executive on environmental issues during the pandemic.

Two other entities still linked to the Ministry of Environment are the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the Chico Mendes Institute for Biodiversity Conservation (ICMBio). A recent report on the trafficking of wildlife that cites both institutes has shown that the lack of data is a major problem in the fight against animal trafficking in Brazil. "In terms of the domestic illegal wildlife trade in Brazil," the report's authors state, "up-to-date systematised figures, either official or academic, are not available due to the fragmented, incomplete and often inconsistent datasets held by the various governmental agencies."[25] IBAMA and ICMBio are key institutes involved in the production and organisation of data on the preservation of Brazilian biodiversity, but are suffering numerous changes to their internal structure and management bodies after Bolsonaro took on the country's presidency.

Indigenous peoples in Brazil

Created in 1967, the *Fundação Nacional do Índio* (Funai) is responsible for identifying, demarcating and registering the lands occupied by Indigenous peoples, promoting policies aimed at their sustainable development, and reducing the environmental impacts created by external agents.

In 2006, according to data provided by Funai, Brazil had a population of approximately 345,000 "natives". However, in the 2010 census, 817,963 people declared themselves to be Indigenous people.[26] This sudden increase is explained by the change in the identifying criteria and not by demographic factors. Still, Brazil does not yet have a precise estimate of the Indigenous population in its territory.[27]

Funai used to invest in open source solutions for the monitoring of Indigenous lands. Nowadays, maps are out of date and tabs on Funai's website related to "Social participation" and "Open data" are down.[28] On the federal government's open

19 http://terrabrasilis.dpi.inpe.br

20 R7. (2020, 14 July). Governo diz que responsável pela Amazônia não foi demitida do INPE. *R7*. https://noticias.r7.com/brasil/governo-diz-que-responsavel-pela-amazonia-nao-foi-demitida-do-inpe-14072020

21 Spring, J. (2020, 13 July). Brazil reassigns deforestation data manager, raising question of political influence. *Reuters*. https://www.reuters.com/article/us-brazil-environment/brazil-reassigns-deforestation-data-manager-raising-question-of-political-influence-idUSKCN24F025

22 http://snif.florestal.gov.br/pt-br/o-que-e-o-snif

23 http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/Lei/L13844.htm

24 Amaral, A. C., Watanabe, P., Yukari, D., & Meneghini, M. (2020, 28 July). Governo acelerou canetadas sobre meio ambiente durante a pandemia. *Folha de S. Paulo* https://www1.folha.uol.com.br/ambiente/2020/07/governo-acelerou-canetadas-sobre-meio-ambiente-durante-a-pandemia.shtml

25 Charity, S., & Ferreira, J. M. (2020). *Wildlife Trafficking in Brazil*. TRAFFIC International. https://www.traffic.org/site/assets/files/13031/brazil_wildlife_trafficking_assessment.pdf

26 IBGE. (2012). *Os indígenas no Censo Demográfico 2010: primeiras considerações com base no quesito cor ou raça*. IBGE. https://indigenas.ibge.gov.br/images/indigenas/estudos/indigena_censo2010.pdf

27 There are numerous records of sightings of Indigenous "uncontacted" peoples living in voluntary isolation. In 2020, the Funai database had 28 confirmed records of uncontacted groups and 86 records under analysis, totalling 114 groups. Several of these sightings occurred within protected reserves, but other groups are exposed in regions that are under great environmental pressure from farmers, miners and the agricultural industry, making their fate very uncertain.

28 http://www.funai.gov.br/index.php/acesso-a-informaca02/mn-dados-abertos

data portal,[29] a section called "CACI – Mapping of Attacks Against Indigenous People" was the first time that crimes against Indigenous peoples were systematised and georeferenced.[30] Rather than being updated annually, the last report on "Violence against Indigenous peoples in Brazil" dates from 2015 and the last data uploaded onto the platform refers to the murder of an Indigenous child in 2017.

In Funai's extensive Information and Communications Technology (ICT) 2020-2022 Master Plan, principles such as "publicity and transparency" are included. Under "guidelines", the plan mentions the adoption of information accessibility standards and less bureaucratic procedures to provide society with a set of information and tools aimed at the promotion of sustainable development and the cultural preservation of Indigenous peoples. The plan also encourages the adoption of free software. Under "strategic objectives", the delivery of ICT solutions that add strategic value to Funai, the viability of digital public services for society, and the promotion of transparency through the use of ICTs are listed. However, after a SWOT analysis,[31] several external threats were identified in Funai's ICT structure. Changes in the federal government's public policy plan, budget restrictions, political instability with the risk of discontinuity in strategic plans previously established, and the withdrawal or termination of contractors involved in critical services were some of them.[32]

Recent data from NGOs shows how the Indigenous peoples are suffering the loss of their lands with the growth of conflicts caused by the advance of agroindustry in Brazil. During the last years, a more aggressive advance of an export-oriented economy resulted in an increase in the number of deaths in land conflicts in the country. After a reduction over the past 10 years, deaths have increased during Bolsonaro's administration.[33]

During the COVID-19 pandemic, in order to make up for the neglect of the federal government, open data initiatives at the regional level have

been emerging across the country. In June 2020, students at the Federal University of Rio Grande do Norte (UFRN) launched a platform in order to document Indigenous communities and villages, but also to trace the impact of the COVID-19 pandemic on Indigenous peoples.[34] In order to monitor the COVID-19 cases within Indigenous villages and surrounding areas, the NGO Instituto Socioambiental (ISA) created an interactive online platform, in which it is possible to monitor the progress of the virus through Brazilian Indigenous reserves.[35]

Quilombolas and Afro-Brazilians

Quilombos or *Quilombola* communities, in the past, were places of refuge formed from the union of fugitive slaves or the purchase of lands by freed slaves. Contemporary quilombos refer to the lands of descendants of these peoples, who live in communities characterised by subsistence agriculture and cultural practices that have a strong link with their African ancestry.

More than 15 million Quilombolas live in Brazil, fighting for the right of ownership of their lands enshrined in the Federal Constitution since 1988. Quilombolas can claim official recognition from the Fundação Cultural Palmares (FCP). The FCP is a Brazilian public entity linked to the Ministry of Culture, created in 1988. Its main mission is the preservation of Afro-Brazilian culture.

However, the last update on FCP's open data portal related to the number of certified quilombos (Quilombola settlements) is from February 2019 and there is no visualisation tool created for this purpose yet. The only available documents are related to metadata information and a spreadsheet last updated at the beginning of 2019, despite the FCP's Open Data Plan 2017/2019, establishing the monthly updating of quilombo certification data.

In 2018, an amended version of the FCP's Open Data Plan was released. The new plan seems to postpone, often up to one year, some of the deadlines previously agreed. Still, it seems that the deadlines have not been met. Some of the goals were the "implementation of automatic publishing of open data information" and a new Open Data Plan for 2020/2022. However, no documents containing these data seem to be available on the portal.

In 2019, Sérgio Camargo was appointed as the new president of the FCP by Bolsonaro. The appointee was known for posting racist comments on social networks, referring to the Black rights movement in Brazil as "evil scum" formed by "bums"

29 http://dados.gov.br/aplicativos?organization=minister io-da-justica-e-seguranca-publica-mj

30 http://caci.cimi.org.br

31 The term SWOT is an acronym for "strengths", "weaknesses", "opportunities" and "threats". It is a method that makes it possible to verify and evaluate the intervening factors for a strategic positioning of the ICT unit in the environment in question.

32 Jair Bolsonaro's attempts to dismantle the Indigenous protection system are numerous. Hours after taking office on 1 January 2019, he tried to transfer the demarcation of Indigenous lands to the Ministry of Agriculture. In February 2020, Bolsonaro appointed a former evangelical missionary, who is linked to an organisation known for forcing contact with Indigenous groups and trying to evangelise them, as general coordinator of Funai's Isolated Indigenous Peoples.

33 Sugimoto, L. (2019, 18 March). Geógrafo alerta para desmonte da Funai. *UNICAMP*. https://www.unicamp.br/unicamp/index.php/ ju/noticias/2019/03/18/geografo-alerta-para-desmonte-da-funai

34 https://cchla.ufrn.br/povosindigenasdorn/mapa.html

35 https://covid19.socioambiental.org

and belittling African-based religions. Moreover, he promised to fire those who did not share his "goal" of firing "leftists", stating that "assembling a new extreme right team" is necessary.[36]

Among the various committees already extinguished by Camargo is the Open Data Committee. He also started to concentrate the power of decisions that were previously taken collectively. Black movement organisations consider his measures "not only authoritarian, but totalitarian and highly dangerous for what remains of democracy" in Brazil.[37]

They also noted that there is no interest in the effective participation of organised civil society or in the creation of arenas for debate. Currently, on the FCP's website, the section aimed at the disclosure of information regarding the holding of public hearings, public consultations or other forms of encouraging popular participation does not contain any information.[38]

Conclusion

The building of a sustainable environment strategy takes decades of cooperation, geopolitics, fomenting alliances for multistakeholder governance, the implementation of technologies to provide continuous open data, and, mainly, a strong promotion of peoples' rights. On the other hand, it takes a couple of years to disrupt environmental policy and regulations and to sell lands and forests in the service of capital. It is safe – and unfortunate – to say that the latter is the model adopted by the current Brazilian government.

It has also become clear that scientific research work bothers those whose goals involve manipulating or withholding public information. These opaque and unethical policies are typical of authoritarian regimes and historical enemies of freedom of expression. This scenario suggests that it is more important than ever to reaffirm the necessity of public and private funding for environment-related research and promoting open debate and freedom of expression and opinion in the scientific and academic field.

Indigenous and Quilombola peoples have their ancestry, lands and cultural heritage at the core of their lives. In this case, the use of technologies and open information best practices by the entities responsible for their preservation can be fundamental for plural and democratic oversight and thus for a sustainable and trustful future. The very essence of the Brazilian identity is at stake if its Indigenous people and environment are not prioritised over commercial interests. The fight for their causes is a form of decolonisation and a strengthening of the global South.

Action steps

The following action steps are necessary in order to address the open data and environmental crisis in Brazil:

- Publicly defend the maintenance of open data portals and transparency platforms as enablers for the exercise of political rights of vulnerable groups and for the protection of the environment.

- Encourage educational campaigns and events with the scope of popularising free software tools in all sectors of society, emphasising the importance of open data for achieving the Sustainable Development Goals and for Brazilian democracy.

- Push the government for accurate data that has been withheld over the past few years, using the Access to Information Law and/or other legal instruments available in the Brazilian legal system.

- Seek mobilisation at the regional and international level to prevent the current administration from dismantling institutions that protect the environment and vulnerable communities in Brazil. Demand reparations through instruments and remedies available at international courts and through international organisations.

36 Terra. (2020, 2 June). Movimento negro é "escória maldita", diz Sérgio Camargo. *Terra.* https://www.terra.com.br/noticias/brasil/politica/movimento-negro-e-escoria-maldita-diz-sergio-camargo,c40ff8b50aac1fa2ed55593eabee7e8aj1um9xrw.html

37 Amado, G. (2020, 25 June). Presidente da Fundação Palmares não recebeu movimentos negros. Época. https://epoca.globo.com/guilherme-amado/presidente-da-fundacao-palmares-nao-recebeu-movimentos-negros-24497003

38 http://www.palmares.gov.br/?page_id=55960

Technology, the environment and a sustainable world: Responses from the global South

The world is facing an unprecedented climate and environmental emergency. Scientists have identified human activity as primarily responsible for the climate crisis, which together with rampant environmental pollution, and the unbridled activities of the extractive and agricultural industries, pose a direct threat to the sustainability of life on this planet.

This edition of Global Information Society Watch (GISWatch) seeks to understand the constructive role that technology can play in confronting the crises. It disrupts the normative understanding of technology being an easy panacea to the planet's environmental challenges and suggests that a nuanced and contextual use of technology is necessary for real sustainability to be achieved. A series of thematic reports frame different aspects of the relationship between digital technology and environmental sustainability from a human rights and social justice perspective, while 46 country and regional reports explore the diverse frontiers where technology meets the needs of both the environment and communities, and where technology itself becomes a challenge to a sustainable future.

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