


# Environment, health, and the COVID-19: from global crisis to sustainable existence


## Ambiente, saúde e covid-19: da crise global à existência sustentável<sup>1</sup>

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### Abstract

This essay analyzes the socio-sanitary impacts exerted by the environment, incorporating the dynamics brought about by the COVID-19 pandemic and unveiling its repercussions. Countries that failed to prevent the virus spread and to established effective and collaborative intervention measures were hit the hardest. Environmental destruction reached new heights in the pandemic, as have the threats faced by its defenders, further aggravating the crisis. In this scenario one can highlight the risks posed to Brazilian Indigenous peoples and Latin American environmentalists; the emergence of dangerous groups; and the implementation of government policies with critical effects on environmental preservation that put traditional ways of life at risk. It is thus recognized that the planet faces not only a health crisis, but also a socioeconomic and environmental one. To overcome such heterogeneous crisis, efforts must be multifaceted, involving: caring for health and ecosystems; eliminating global poverty and sanitary inequality; reducing environmental risks; protecting traditional ways of life; defending democracies and human rights; and fostering sustainable development policies and international cooperation. These efforts will also affect the years to come, minimizing the risks of new pandemics and acting to preserve the environment.

**Keywords:** Environmental Health; COVID-19 Pandemic; Environmental Activism; Indigenous People; Social Ecology.

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## Resumo

Este ensaio busca analisar os impactos socioambientais exercidos pelo meio ambiente, incorporando as dinâmicas trazidas pela covid-19 e evidenciando as repercussões da pandemia. O coronavírus atingiu sobretudo países que falharam na prevenção e não estabeleceram medidas de intervenção eficazes e colaborativas. A destruição da natureza se intensificou na pandemia, assim como as ameaças enfrentadas por seus defensores, o que agravou ainda mais a crise. Nesse contexto pode-se destacar os riscos apresentados aos indígenas brasileiros e aos ambientalistas latino-americanos; o surgimento de grupos perigosos; e a implementação de políticas governamentais de efeitos críticos que afetam a preservação ambiental e colocam em risco os modos de vida tradicionais. Assume-se, desse modo, que o planeta enfrenta uma crise sanitária, mas também socioeconômica e ambiental. Para que tal crise heterogênea seja superada, os esforços precisam ser multiformes, envolvendo: cuidados à saúde e aos ecossistemas; diminuição da pobreza global e da desigualdade sanitária; redução de riscos ambientais; proteção dos modos de vida tradicionais; defesa das democracias e dos direitos humanos; fomento de políticas de desenvolvimento sustentável; e cooperação internacional. Tais esforços também incidirão sobre os anos vindouros, minimizando os riscos de novas pandemias e atuando na preservação ambiental.

**Palavras-chave:** Saúde Ambiental; Pandemia por Covid-19; Ativismo Ambiental; Indígenas; Ecologia Social.

## Introduction

This essay aims to analyze the environment impact on human health, incorporating the dynamics brought about by COVID-19. The discussion begins by addressing the repercussions of development models that are not committed to nature and, therefore, to human health. Throughout the pandemic, this scenario had aggravating factors, which created new difficulties for certain groups and for environmental protection, as it is shown in the second part. The final part, by addressing efforts to overcome the crisis, discusses different paths for an inclusive COVID-19 recovery, committed to health and in harmony with nature.

### Search for “development” and its impact on the environment and health

Human actions impact nature, either positively or negatively, and to different degrees. No intervention in the world is neutral and devoid of consequences, so that even the concrete forms of nature appropriation arise from the interests and strategies of groups, classes, companies, communities, or states (Radicchi; Lemos, 2009).

Species relate to each other through interactions established in the ecosystem, and the transformations resulting from environmental degradation – especially those in recent decades – are harmful to human health, resulting in the frequent threat posed by pandemics (Medeiros, 2022). This reality may worsen in the coming years, given the intensification of the climate crisis, leading to bad weather, such as unhealthy atmospheric temperature rates and a higher incidence of storms and floods (Carvalho; Schmidt, 2020).

Societies search for economic growth while seeking to reduce environmental damage, but in capitalist reality, especially in the midst of economic liberalism, a dichotomy between these interests prevails (Jackson, 2009). The dominant conception of development is linked to economic production, prioritizing economic growth, represented in the gross domestic product (GDP), a value that does not consider ecological damage, planet’s physical limits, and not even full employment (Jackson, 2009). By disregarding the collective reality, economic

growth is not necessarily linked to prosperity, and may even harm it (Jackson, 2009). Coming from a conception of the economy as something separate from society and the environment, the current search for development in capitalist societies allows the natural resource excessive consumption and nature degradation in favor of material wealth, compromising the climate, air quality, water and soil, and life sustainability (Jackson, 2009).

The loss of large areas of wild nature and pollution in large cities are examples of reasons that lead to new balances between the environment quality and human activities (Gudynas, 2010). Besides damage to biodiversity, the loss of wild areas has an impact on the local population and other actors interested in environmental preservation, such as environmentalists and indigenous peoples, who face double trouble, involving the virus threat and the environmental exploitation interests (Em 2020..., 2021; Global..., 2020; INA; Inesc, 2022; Phillips, 2020). Moreover, environmental degradation and the recovery of people with COVID-19 are related. In the case of air pollution, approximately 7 million people already die prematurely each year - 91% of them in low- and middle-income countries, in the Pacific and Southeast Asia (OMS qtd. in Carvalho; Schimidt, 2020) - and this factor assumes even more serious connotations in the face of a pandemic that attacks the respiratory system (Carvalho; Schimidt, 2020). It was observed that a small increase in long-term exposure to PM<sub>2.5</sub><sup>1</sup> led to a large increase in the COVID-19 death rate, reinforcing the need for air pollution regulation in order to protect human health, reducing deaths and long-term hospitalizations due to COVID-19 and other diseases (Xiao et al., 2020).

The risk of pandemics would decrease significantly with a greater conservation of protected areas, the reduction of activities that drive biodiversity loss, and the reduction of unsustainable exploitation of high biodiversity regions, making contact between wildlife, livestock and human beings less frequent and preventing the spread of new diseases (IPBES, 2020). Nevertheless,

efforts to preserve the environment, in its diversity of life forms, do not always achieve effective results in the face of destruction fronts (Medeiros, 2021).

Due to ignorance or indifference, humankind has caused irreparable damage to the environment, compromising well-being and life (ONU, 1972). Wrongly or recklessly applied, human beings' ability to transform what surrounds them can cause incalculable damage to themselves and their environment, which manifests itself in the contamination of water, air, land and living beings; in the biosphere ecological imbalance, and in the depletion of irreplaceable resources, leading to serious deficiencies in their environment, harmful to human health (ONU, 1972).

Human actions should be oriented towards awareness of possible environmental damage (ONU, 1972). On different global scales, consequences and diffusion power, this damage arises both from wealth and expansive modernity, and from underdevelopment, poverty, and misery (Radicchi; Lemos, 2009).

The results are comprehensive. "Poor and rich countries, aquatic and terrestrial environments, the atmosphere and urban agglomerations, the entire planet, in some way, currently experience the problematic consequences of modern modes" of material production/reproduction (Radicchi; Lemos, 2009, p. 18). A social, political, and economic model of modernity is validated, which was not created or promoted by those who suffer from hunger, but has its origin and support in the license for the misery and environment destruction to continue to exist (Medeiros, 2021).

The loss of biodiversity is one of these consequences, which brings socio-sanitary implications. The World Wide Fund for Nature (WWF, 2020) emphasizes the importance of biodiversity for human well-being and life on Earth, indicating the consequent damage caused by human activities since the Industrial Revolution, which increasingly degrade and destroy different ecosystems in an unprecedented pace. Even species that go unnoticed play a fundamental role in

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<sup>1</sup> "Particulate matter" or "particulate pollution" (PM) are suspended, inhalable, and tiny particles; in the case of PM<sub>2.5</sub>, with less than 2.5 micrometers in diameter. PM indicates air pollution and is harmful to health.

establishing the balance of an ecosystem and may be essential either to solve possible human needs in the future or to regulate an environmental issue, besides having value in themselves (Francisco, 2015).

For Radicchi and Lemos (2009), the environment is necessarily an ethical-political issue. According to the authors, although the actions of the different territories have some impact on the environment, it is not a matter of homogenizing the problems and relativizing the responsibilities, since the unequal should be treated in an unequal way.

The peasant who do slash-and-burn agriculture to plant a rice field for his family's subsistence and the rubber tapper who hunts in the forest for his livelihood cannot be equated with those responsible for major environmental disasters, radioactive waste, acid rain, massive deforestation, by the degradation of rivers, lakes, oceans. (Radicchi; Lemos, 2009, p. 18)

The poorest regions have less capacity to adopt new models of reducing the environmental impact, so it is necessary that the North countries contribute by limiting the consumption of non-renewable energy in a significant manner, besides providing resources to the nations most in need, to promote sustainable development policies and programs (Francisco, 2015).

For adequate sustainability and health, quality of life and surroundings protection, there should be limits on the resource appropriation and on the effects on the environment, where effective environmental and social regulations are necessary (Gudynas, 2010). In the midst of strategic problems, threats continue to compromise the world biodiversity: significant alterations to the Earth surface; pollution of most seas; loss of more than 85% wetlands; accelerated decline in the biodiversity of freshwater ecosystems, and alarming decline in plant diversity (WWF, 2020). Extreme weather events have become a growing concern for species survival, including severe fires and droughts, such as those in Zimbabwe, and marine heat waves that are causing mass coral destruction, leading to the extinction of over a million coral species (Crise..., 2020).

In this scenario of generalized threats, changes in land use stand out as the factor that most directly caused the loss of biodiversity in terrestrial systems in recent decades, converting original autochthonous habitats into agricultural land (WWF, 2020). Large forest fires recently occurred in areas of Brazil and in other countries - such as the United States, Canada, Greece, Turkey, Russia, Algeria, Libya, Tunisia, and Australia - have criminal origins or are related to the inability to contain climate change, causing environmental destruction and high emission of greenhouse gases (Medeiros, 2021). Amid abuses and struggles, global temperatures are rising and species are dying at an unprecedented rate (Crise..., 2020). In a summer of record temperatures and droughts, more than a billion animals died in the wildfires of southwest Australia, and many others were injured or suffered from lack of food and water (Crise..., 2020).

Much of the world terrestrial biodiversity is concentrated in forests, so that when they burn, the biodiversity which human beings depend on for their survival is also destroyed by the fire (Crise..., 2020). In the Amazon rainforest, where flora and fauna are not adapted to resist the fire, the drastic increase in the number of fires continues to reduce and puts species richness at risk, (Kimbrough, 2020).

The *savannization* of the Amazon region is already a reality, with signs and consequences that work like a gear: the dry season has increased, the temperature rose, some trees typical of the forest are dying due to less water recycling, and the absorption of carbon dioxide from the forest is decreasing. As a direct effect, threats to climate stability and agriculture in South America arise; hundreds of thousands of species are lost, disturbing the environment with the largest number of living microorganisms in the world, including thousands of coronavirus and arenavirus species, opening the door for new pandemics (Nobre, 2021).

Like Nobre (2021), other scientists are concerned at the possibility that a combination of fires, increased drought due to climate change and deforestation could lead to a no-return point, with devastating impacts for the Amazon, which is home to 10% world biodiversity (Kimbrough, 2020). In the face of devastating fires, locust plagues and

the COVID-19 pandemic, it is clear that biodiversity conservation have to become a strategic and non-negotiable investment aimed at preserving health, resources, and safety (WWF, 2020).

“In five years Earth temperature could rise by 1.5°C and that will be a disaster for humanity. But this pessimistic scenario has alternatives, and one of them is” agroecology, Leonardo Boff states in a report by the *Brasil de Fato* portal (Caldas, 2022). Despite all the losses that already exist, due attention to land use and other environmental needs can still avoid the no-return point, making it necessary to question structural and cultural problems and recognize or manage other forms of life (Medeiros, 2021). Organization around ecological awareness is essential, because overcoming the environmental crisis should include theoretical-methodological aspects, but also political-organizational ones (Radicchi; Lemos, 2009).

The Stockholm Declaration on the Human Environment (ONU, 1972) establishes the human right to adequate living conditions in a quality environment, and human beings should fulfill the solemn obligation to protect and improve that environment. For this, considering the finitude of natural resources and the imminent risk of irreversible climate damage, government intervention have to stop capitalism and promote the nature protection, with more sustainable models of economic activity (Jackson, 2009). The search for development should see prosperity as a factor that is not tied to the modern idea of continuous economic expansion but that calls for a world of social justice and peace, involving shared benefits guided by public policies, with attention to sustainable consumption, stability in the labor market, and human needs, such as food, housing, and access to education and health, including healthy environments (Jackson, 2009).

Nonetheless, the environment continues to be destroyed, resulting in environmental disasters. As a result, marginalized groups, especially the economically poorer, are those who suffer the most (Medeiros, 2021). Before the destruction agents' strength, environmentalism is surrounded by challenges, with obvious repercussions on militancy and activism.

## Threats to environmental protection, damage and pandemic

While environmentalism is seen as an aesthetic issue by some, for others it is a matter of survival. Ramachandra Guha and Joan Martínez Alier proposed the thesis of the environmentalism of the poor, showing people who struggle to obtain the ecological needs for life, notably energy, water, and space to shelter (Folchi, 2019). The environment defense, according to Folchi, would emerge as a response from the poor, mainly indigenous peoples and peasants from the global South, in the face of an absolutely concrete situation: the deterioration of the environment in which they live and the consequent impossibility of obtaining sustenance, as in the case of Chico Mendes, Brazilian ecologist leader, militant head of rubber tappers who fought against the Amazon privatization and depredation.

Many of these people live in places especially affected by phenomena related to environmental damage. Many communities' subsistence depend to a large extent on natural resources and ecosystem services - such as agriculture, fishing, and forestry resources - with no other economic availability or other resources that allow them to adapt to climate impacts or combat catastrophic situations, having even less access to social services and protection (Francisco, 2015).

Climate change, aggravated by current production and consumption models, gives rise to migrations of animals and plants that are not always able to adapt, affecting the productive resources of the poorest, who are also forced to migrate (Francisco, 2015). More and more populations feel great uncertainty about the future when they migrate to escape the misery aggravated by environmental degradation, a factor that is not recognized as a refuge in international conventions, increasing the burden of abandoned lives without normative protection (Francisco, 2015).

Moreover, there are other environmental issues, such as violent conflicts, exploitation, and pollution, which cost countless people's health and lives. Rachel Cox attributes many of the world's worst environmental and human rights abuses to the natural resource exploitation and corruption in

the political and economic system, noting the oppositional role played by people defending the land and the environment (Global..., 2020).

“As the climate crisis intensifies, violence against the planet Earth defenders also increases” (Em 2020..., 2021). In some countries, governments have used the pandemic as an excuse to restrict land and environmental defenders’ freedoms, such as the right to protest or freedom of expression, making it very difficult to confront destructive extractive industries and other harmful projects (Qureshi, 2020). Consequently, under increased repression and surveillance, the land and environment protection has become even more critical and dangerous, with defenders around the world being murdered and facing threats, harassment and criminalization for protecting their homes and our planet peacefully (Qureshi, 2020).

Indigenous peoples, traditional communities, and other groups whose subsistence is intrinsically linked to ecosystem services, in addition to facing the climate change consequences, are exposed to additional risks related to COVID-19 and also face difficulties in accessing health services (Medeiros, 2021). Edney Samias, chief of the Kokama people, settled in the Amazon region of Alto Solimões, revealed to journalist Dom Phillips (2020) that, even in the first half of the pandemic, COVID-19 had killed 57 people in his tribe, including his father. In addition to infection, there remains the risk of direct violence faced by indigenous peoples and environmental activists. Dom Phillips himself and the indigenist Bruno Pereira were murdered in June 2022 in the Amazon region, where they would continue to devote their efforts to the indigenous peoples.

Those are not isolated facts. The amount of crimes committed against environmentalists in Latin America was already high, but there have been serious increase in recent years. The highest number of land and environmental defenders murdered in one year was recorded in 2019, with more than two-thirds in Latin America. They were people who opposed, for example, carbon-intensive industries, illegal mining, the violation of the right to water, the cutting down of forests and, in short, the abuses of agribusiness, oil, gas, and mining (Global ..., 2020).

This global figure was surpassed in 2020, with a numerical and percentage increase in Latin America, where three quarters of recorded world attacks occurred (Em 2020..., 2021).

Although Brazil has been facing an increase in deforestation since 2015 - which coincides with the economic crisis and the reduction of inspections -, the practice has intensified under Bolsonaro government, which, by defending a developmental model in line with that used by the military dictatorship, generated a feeling of political empowerment in those who want to occupy land (Nobre, 2021). In the Brazilian Amazon, according to data from the National Research Institute (Inpe), between August 2019 and July 2020, 11,088 km<sup>2</sup> of vegetation cover were lost, an area 9.5% greater than that of the previous year and the largest for the period in the last 12 years (Nobre, 2021). Besides damage to nature, such practices are part of the scenario of risks experienced by the inhabitants of invaded or sought-after territories.

As part of these abuses - adding the anti-democratic environment provoked by the government -, landowners, loggers, miners, militiamen and other actors perpetrated a worrying number of attacks against human rights defenders, civil society organizations, indigenous peoples, and quilombolas (Neto et al., 2021). Indigenous peoples in Brazil were hit by COVID-19 amidst the violation of their rights and threats to their survival, with the constant Amazon deforestation, the multiplication of extractive projects, and the occupation of their territories by illegal projects. Such practices were encouraged by the country’s president through the promotion of a development policy based on the extensive natural resource exploitation in the Amazon, together with his call for the violent invasion of ancestral indigenous territories (TIs) (Neto et al., 2021).

The increase in invasions could lead to the end of indigenous peoples’ access to their territories, aggravated by the lack of effective measures to avoid the disproportionate coronavirus impact, which could be yet another indication of the intention to destroy them as an ethnic group, by infringing deliberately “living conditions with a view to provoking their physical destruction, in whole or in part, in accordance with the definition of genocide in Article 6 of the Rome Statute”

(Neto et al., 2021, p. 5). Global Witness (2020) also highlights the disproportionate tendency of indigenous communities being attacked for defending their rights and territories, and warns that, along with the deaths, countless numbers of defenders suffer violent attacks, arrests, threat of death or of a lawsuit, and thus, are silenced. Among the tactics to silence people, the organization identifies that women face specific threats, such as smear campaigns often focused on their private life and sexual violence, a fact that is usually not denounced.

The protection and promotion of indigenous rights expected from the National Indian Foundation (Funai) have not been put in practice. INA and Inesc (2022) claim that Funai has implemented an anti-indigenous policy, working against the very reason for its existence. The arrival of the pandemic “was a pretext to deepen the distance and absence of Funai from the territories” (INA; Inesc, 2022, p. 57). “In March 2020, in the middle of the dramatic scenario of the pandemic,” the Funai president annulled the “administrative process of identification and delimitation of the Tekoha Guasu Guavirá TI, traditionally occupied by the Avá-Guarani indigenous people, located in the Paraná municipalities of Altônia, Guaíra, and Terra Roxa” (INA; Inesc, 2022, p. 82). It was an “attempt to put a final nail in the coffin of the long history of fight of the Guarani people living at the Tekoha Guasu Guavirá,” setting up “another chapter of the indignant and shameful federal government’s operation to corrode the indigenist entity from within during Bolsonaro’s term” (INA; Inesc, 2022, p. 83).

By changing, during the pandemic, the criteria for defining who can be considered indigenous, Funai makes identification difficult, linking an indigenous people’s identity to the ratification of the right to land, in addition to contradicting the principle of people self-determination, indigenous self-declaration, and internal recognition. Furthermore, this reflects on targeted programs, excluding indigenous people living in urban contexts or outside demarcated territories (Medeiros, 2021). Therefore, in addition to the context of the pandemic, state agents can say “who should and who should not benefit from public policies aimed at indigenous peoples,” a special

gravity with consequences for the immunization of these populations (INA; Inesc, 2022, p. 118).

Moreover, the *Independência Indígena* [Indigenous Independence] project was created, which preaches indigenous autonomy and ethnodevelopment, but, in practice, represents Funai management’s commitment to encourage the economic exploitation of indigenous lands by third parties (INA; Inesc, 2022). Funai demonstrated to disregard the principles of indigenous policy to serve the interests of rural producers and politicians, “the real ones responsible for presenting and making the proposal viable with the autarchy,” benefiting from image gains and promoting festive agglomeration at TIs in the midst of a pandemic (INA; Inesc, 2022, p. 160).

The threat to indigenous life is also a threat to biodiversity, as indigenous peoples play a fundamental role in preserving the South American biodiversity, helping to expand the fauna and flora diversity, as they have unique ways of living and occupying the places (Santos, 2020). Besides using natural resources without compromising ecosystems, the forms of management they developed proved to act in the biodiversity conservation in Brazil, including the transformation of the Amazon poor soils into a very fertile type (Santos, 2020). “These peoples’ management of biodiversity played a fundamental role in the formation of different landscapes in Brazil, whether in the Amazon, the Cerrado, the Pampa, the Atlantic Forest, the Caatinga, or the Pantanal” (Santos, 2020).

With the occupation of the continent by Europeans, the territorial understanding of colonies and, later, States, new dynamics of relationship with the environment emerged, harming environmental sustainability and the different human groups’ needs (Medeiros, 2021). Related to this, Rachel Cox, in charge of Global Witness campaigns, states:

If we really want to make plans for a green recovery that puts the safety, health and well-being of people at its heart, we must tackle the root causes of attacks on defenders, and follow their lead in protecting the environment and halting climate breakdown. (Global..., 2020)

Despite the violent threats and criminalization of their acts, defenders have been succeeding around the world, which, for Global Witness (2020), is a testimony to resistance, strength, and determination in relation to the protection to rights, the environment, and climate.

## Protect health, restore nature and thrive with inclusion

Air pollution was weakening our health before COVID-19, increasing the risk of illness and worsening symptoms, and resulting in 7 million premature deaths each year, in addition to the effects on the fetus, which increased the workload of health systems (Carta..., 2020). Its causes are essentially: vehicle traffic, inefficient use of energy to cook and heat homes, coal-fired power stations, burning of solid waste, and agricultural practices (Carta..., 2020). For reasons like this, *getting back to normality* is not enough (OMS, 2020).

COVID-19 highlights the links between human beings and their habitat, implying climate change, the deterioration of the biosphere and human connections, including need to see health as an international public good that requires support from all, besides robust cooperation (Sanahuja, 2020, p. 50). Social resilience depends on international cooperation, enabling a cosmopolitan perspective, because a national perspective does not contribute to combating risks (Sanahuja, 2020).

The globalized world is forced to recognize that it faces a shared threat that no single government can overcome alone: a global issue that requires a global solution (Diamond, 2021). As New Zealand and Vietnam have demonstrated, no country is safe from COVID-19 until everyone is (Diamond, 2021). In addition to virus containment, other risk management plans should be found

According to Tedros Adhanom Ghebreyesus, in order not to fail, efforts to make the world safer should address the interface between people, pathogens, and climate change (OMS, 2020). With similar motivation, organizations and health professionals from 90 countries wrote to G20 leaders calling for a healthy COVID-19 recovery. They affirm

that a “truly healthy recovery will not allow pollution to continue to cloud the air we breathe and the water we drink. It will not permit unabated climate change and deforestation, potentially unleashing new health threats upon vulnerable populations” (Carta..., 2020) “World leaders must take urgent action to protect and restore nature as the foundation for a healthy society and a thriving economy” (Lambertini, 2020, p).

Although dangerous, COVID-19 is considered a minor problem when compared to other dangers involving climate change, unsustainable use of world resources, and inequality (Diamond, 2021). Diamond (2021) questions the reason why we have not acted against such evils if we are being driven by this potentially milder threat. The author assures that it is because COVID-19 captures our attention by sickening or killing its victims quickly and unequivocally, while broader threats destroy us slowly and less clearly, through indirect consequences, and it takes time for them to be recognized as global dangers that require global responses.

Considering pandemics, humanity has not taken the most prudent or responsible path. Not even the most economical one: specialists calculate that the cost of reducing the risks of a pandemic is 100 times lower than that of reacting to it (IPBES, 2020). “Attempting to save money by neglecting environmental protection, emergency preparedness, health systems, and social safety nets, has proven to be a false economy [...]” (OMS, 2020).

To escape the era of pandemics, one should not limit oneself to reaction, but focus much more on prevention, because relying on containment and control attempts from the onset of diseases is a slow and uncertain path, tending towards human suffering and economic damage (IPBES, 2020). “It is time we answer nature’s SOS. Not just to secure the future of [...] all amazing diversity of life we love and have the moral duty to coexist with, but because ignoring it also puts the health, well-being and prosperity, indeed the future, of nearly 8 billion people at stake” (Lambertini, 2020, p. 1).

To help with this need, the IPBES report (2020) offers certain policy options, including:



- a) A high-level intergovernmental council on pandemic prevention;
- b) A broad international governmental agreement with clear benefits for humans, animals and ecosystems;
- c) National plans to build pandemic preparedness, enhance pandemic prevention programs, and investigate and control outbreaks;
- d) Assessments of emerging disease risk health impact in development and land-use projects, and reforms in financial aid;
- e) Reduction of types of consumption, globalized agricultural expansion and trade that have led to pandemics;
- f) Reduction or removal of species in wildlife trade identified as high-risk of disease emergence;
- g) Enhancement of law enforcement collaboration on illegal wildlife trade;
- h) Promotion of indigenous peoples' and local communities' participation and valuation of their knowledge in pandemic prevention programs, and
- i) Improvement of community education and reduction of critical knowledge gaps.

The world cannot allow itself to experience new catastrophes of the COVID-19 dimension, and must remain alert to the possibility of a next pandemic, climate change and environmental damage, which are increasingly devastating. A profound cultural and systemic transformation is urgently needed, "a transition to a society and economic system that values nature [...]. This is about rebalancing our relationship with the planet to preserve the Earth's amazing diversity of life and enable a just, healthy and prosperous society [...]" (Lambertini, 2020, p. 1).

For Boff, the large-scale destruction of our planet is the result of the capitalism voracity: "If I make the earth a place for digging, exploring and buying and selling, it doesn't fulfill its destiny. But if I treat the earth as if it were a mother and I devote care and love to it, it will meet its fate. And capitalism does not do that, so it is important to fight against it" (Caldas, 2022). It is necessary to reconsider the model that seeks profit at all costs and promote ways of life that consider environmental preservation.

Economic development modalities can cause permanent and increasing damage to the ecological systems that support health and livelihoods, but if thought about in a wise manner, they can promote a healthier, more equitable, and environmentally respectful world (OMS, 2020). Thus, the WHO (2020) presents recommendations for a healthy and ecologically responsible recovery:

- a) Protect and preserve nature: global recovery and risk mitigation plans; early detection and control of outbreaks;
- b) Invest in healthier environments, with essential services, such as water, sanitation and non-polluting energy, in health care facilities, and labor protection;
- c) Ensure a quick and healthy energy transition;
- d) Promote healthy, sustainable food systems
- e) Build healthy, liveable cities;
- f) Stop using taxpayers money to fund pollution, and
- g) A global movement for health and the environment.

According to the health community (Carta..., 2020), for a healthier and more resilient society, more intelligent incentives and dissuasive measures must be offered. If governments bet on the production of renewable and non-polluting energy, reconsidering the subsidies they grant to the exploitation of fossil fuels, we will have cleaner air and drastically reduced emissions that cause climate change, driving an economic recovery and increased World GDP (Carta..., 2020). The stimulus plans of the different countries must be instruments to enable world health recovery, so that their protection and promotion should be one of the central axes of the governments' great investments in basic sectors such as health care, transportation, energy, agriculture, and livestock (Carta..., 2020).

It is necessary to abandon the dismantling of the multilateral architecture and not to focus exclusively on national challenges, but rather stimulate cooperative formats, "understand the urgent need to protect the world's most vulnerable people, to aid them in resisting and recovering from Covid-19, and to increase investments in

development, resilience, and peace” (Eisentraut; Kabus; Mieke, 2020, p. 10). For this, Eisentraut, Kabus and Mieke (2020) establish that: at first, States should renounce protectionist measures in the field of medical supplies and protective equipment, as they threaten the protection capacity of the most vulnerable nations; next, economically rich countries must strengthen humanitarian aid, which continues to have a sizeable funding gap. Efforts to limit the damage of the pandemic in the most vulnerable regions also require debates on debt relief, placing the G20 in a unique leadership position (Eisentraut; Kabus; Mieke, 2020).

The search for equity and social and temporal sustainability requires economic, social, and ecological training, requiring a structure that rethinks the wealth production, distribution, and consumption: “the extinction of hunger and misery, which are imposed on a considerable part of the world’s population, presupposes a new economy, new technologies, new modalities of appropriation of nature, new work relations and new forms of property” (Radicchi; Lemos, 2009, p. 18). The best protection for human health and livelihoods in the long term involves committing to nature and people, building a carbon neutral society that enables a safe future for the next generations (Lambertini, 2020). Poly-pandemic crises could offer many opportunities for the international community to provide support for affected countries, favoring reconstruction and helping reduce global disparities that undermine peace, stability, and resilience (Eisentraut; Kabus; Mieke, 2020).

The current pandemic has highlighted the importance of “investing in robust health and sanitation systems, in resilient economies, and in state-society relations characterized by trust,” taken into consideration that the current investments will play a decisive role in facing future crises (Eisentraut; Kabus, 2020, p. 30). It brought a cooperation apprenticeship; recognition that we face a shared threat that cannot be overcome nationally (Diamond, 2021). The notion of the critical conjuncture of COVID-19 opens up possibilities for questioning the current order, involving perceptions of overcoming the crisis that can continue to inspire

a more just, sustainable, and peaceful future (Sanahuja, 2020, p. 51).

Besides conserving the environment for future generations, one must remember the human duty to condemn and eliminate forms of apartheid, racial segregation, discrimination, colonial oppression and other forms of oppression and domination (ONU, 1972), factors of strong impact during the pandemic (Medeiros, 2021). To overcome the crisis, coherent policies are needed; economic transformation in favor of more rights, oriented towards more democracy and sustainable development; production and consumption transformation, focused on the environment and all people, committed to sustaining community and life; and logic of care and cooperation, with reconstruction measures, inside and outside borders (Futuro en Común, 2020).

One expects that, with the decrease in the acute crisis, societies will wake up to new joint actions. People can learn from uniting to defeat COVID-19, motivating themselves to fight against climate change, resource depletion and inequality, which would be an opportunity for the pandemic to be a watershed, putting humanity on a sustainable course (Diamond, 2021). It would be an opportunity, as invited by Boff, to publicize what is happening in the world and act in defense of the Earth, our common home (Caldas, 2022).

## Final considerations

Amid neglect, humanity has been paying, to different extents, for the ideal of modern development. Global warming, droughts, fires, floods, plagues, contamination, species extinction, springs degradation, landslides, dam ruptures, zoonoses, epidemics, and other phenomena have intensified. In Brazil, in addition to the COVID-19 pandemic precarious confrontation, the threats to Amazonian biodiversity - a product of the history of indigenous nations’ activities, which maintain ways of life inseparable from the forest, guarding the best preserved areas - have to be highlighted.

Faced with environmental attacks and the weakening of preservation measures, TIs, traditional

ways of life, and life itself have not been respected. Practices such as mining and deforestation generate violence, pollute water (making populations sick), alter the habitat of many species, and affect the rainfall regime. Threats have intensified with the pandemic, reaching TI and other preservation areas. Therefore, this essay contributes by adding discussions about the mutual relationship between health and the environment, confirming the need not to ignore or put in the background the demands related to the environment, as this agenda is essential in facing an also socioenvironmental.

The COVID-19 repercussions and the period consequences on populations and the environment highlight the interrelationships between a healthy and resilient society, a protected and restored nature, and a prosperous economy. Those who do not dictate the norms of economic power and generate less significant impacts on the environment are those who suffer the most the consequences of environmental devastation and social inequality.

The reckless pursuit of wealth, in addition to not meeting the nations' needs, often establishes problematic relationships with the environment, aggravating the crisis. The interests of capital do not always find limits adequately controlled by the public sphere, demanding - beyond social awareness - state commitment. The current environment its guardians situation is a reflection of government policies.

The climate and socio-sanitary crisis brings to light the need to preserve ecosystems and the contributions of native peoples' cosmovision, ecologism and other movements, wisdom and initiatives that enliven sustainable and regenerative ways of inhabiting the planet. In addition to the militancy's and local peoples' role, the government officials' action is decisive, recognizing the rights to ancestral territories, favoring the protection to the environment and its protectors, and always including the health, environmental, and economic agenda. These practices have an impact on the recovery from the current crisis, prevent future pandemics, and act positively on the planet future.

## References

- CALDAS, A. C. Leonardo Boff: a destruição da Terra é resultado da voracidade do capitalismo. *Brasil de Fato*, São Paulo, 25 jun. 2022. Disponível em: <<https://is.gd/qINZot>>. Acesso em: 26 jun. 2022.
- CARTA a los jefes de Estado del G20. *Healthy Recovery*, [s. l], 26 maio 2020. Disponível em: <<https://is.gd/M7RDeD>>. Acesso em: 20 jun. 2022.
- CARVALHO, D.; SCHIMIDT, F. Racismo ambiental: por que algumas comunidades são mais afetadas por problemas ambientais? Futuro depende do fim da desigualdade. *Ecoa*, São Paulo, 3 ago. 2020. Crise climática. Disponível em: <<https://is.gd/9uphLg>>. Acesso em: 24 maio 2022.
- CRISE climática: incêndios, ondas de calor marinhas e perda de biodiversidade. *UN Environment Programme: Notícias e Reportagens*, Nairobi, 16 jan. 2020. Disponível em: <<https://is.gd/TGZHbZ>>. Acesso em: 9 jun. 2022.
- DIAMOND, J. Jared Diamond explains how COVID-19 might change the world: for the better. *MarketWatch*, New York, 12 jan. 2021. Opinion. Disponível em: <<https://is.gd/4eXe9N>>. Acesso em: 25 maio 2022.
- EISENTRAUT, S.; KABUS, J.; MIEHE, L. Introduction: a World III-Prepared. In: EISENTRAUT, S., et al. *Polyandemic: Munich security report special edition on development fragility, and conflict in the era of covid-19*. Munich: Munich Security Conference, nov. 2020. p. 15-21.
- EM 2020, três quartos dos ataques registrados contra ativistas ambientais e do direito à terra ocorreram na América Latina, afirma relatório da Global Witness. *Global Witness*, London, 13 set. 2021. Press Release. Disponível em: <<https://is.gd/7E2HWt>>. Acesso em: 18 jun. 2022.
- FOLCHI, M. Environmentalism of the poor: environmental conflicts and environmental justice. In: DELGADO, L. E.; MARÍN, V. H. *Social-ecological systems of Latin America: complexities and challenges*. Cham: Springer Nature, 2019.

FRANCISCO. *Carta encíclica Laudato Si'*: sobre o cuidado da casa comum. São Paulo: Paulinas, 2015.

Futuro en Común. *Derechos humanos, políticas públicas y agenda 2030*: la mejor receta contra el covid-19 y la crisis global generada. Madrid, 2020.

Global Witness registra un récord de personas defensoras de la tierra y el medio ambiente asesinadas en un año, vinculado al preocupante avance del cambio climático. *Global Witness*, Londres, 29 jul. 2020. Comunicado de Prensa. Disponível em: <<https://is.gd/SFQ8jH>>. Acesso em: 18 jun. 2022.

GUDYNAS, E. Desarrollo sostenible: una guía básica de conceptos y tendencias hacia otra economía. *Otra Economía*, São Leopoldo, v. 4, n. 6, p. 43-66, 2010.

INA - Indigenistas Associados; INESC - Instituto de Estudos Socioeconômicos. *Fundação Anti-Indígena*: um retrato da Funai sob o governo bolsonaro. Brasília, DF: Inesc, jun. 2022.

IPBES - Plataforma Intergubernamental Científico-Normativa sobre Diversidad Biológica y Servicios de los Ecosistemas. *Escapando la "era de las pandemias"*: expertos advierten que se avecinan peores crisis y ofrecen opciones para reducir el riesgo. Bonn, 29 out. 2020. Comunicado de Prensa. Disponível em: <<https://is.gd/Dr3VnO>>. Acesso em: 13 jun. 2022.

JACKSON, T. *Prosperity without growth*: economics for a finite planet. London: Earthscan, 2009.

KIMBROUGH, L. As the Amazon burns, what happens to its biodiversity? *Mongabay*, Menlo Park, 24 set. 2020. Mongabay Series: Amazon Conservation, Amazon Illegal Deforestation. Disponível em: <<https://is.gd/drFmUG>>. Acesso em: 3 jun. 2022.

LAMBERTINI, M. Ocho mil millones de razones para proteger la naturaleza. In: WWF - WORLD WIDE FUND FOR NATURE. *Informe planeta vivo 2020*: revertir la curva de la pérdida de biodiversidad: resumen. Gland, 2020. p. 1-3.

MEDEIROS, A. A. *Acceso a la salud y vulnerabilidad socioambiental en tiempos de pandemia de coronavirus*. 2021. Dissertação (Mestrado em Estudos Internacionais de Paz, Conflitos e Desenvolvimento) - Universitat Jaume I, Castellón de la Plana, 2021.

MEDEIROS, A. A. Saúde ambiental, ecologia das doenças e eclosão dos coronavírus entre os humanos. In: SANTOS, E.; SILVA, F. da; MELLO, R. G. *Multiplicidades do meio ambiente na contemporaneidade*. Rio de Janeiro: e-Publicar, 2022. v. 1. p. 370-381.

NETO, A. et al. *Brasil: o impacto da covid-19 na defesa dos direitos humanos no Brasil*. Paris: FIDH; Genebra: OMCT, 2021.

NOBRE, C. Carlos Nobre: "Hay señales preocupantes de sabanización en la Amazonía". [Entrevista concedida a] Alba Santandreu. *Agencia EFE*, Madrid, 15 fev. 2021. Brasil Amazonia. Disponível em: <<https://bit.ly/3Tw217F>>. Acesso em: 18 jun. 2022.

OMS - Organización Mundial de la Salud. *Manifiesto de la OMS a favor de una recuperación saludable de la COVID-19*: recomendaciones para una recuperación de la COVID-19 saludable y respetuosa con el medio ambiente. Ginebra, 26 maio 2020. Disponível em: <<https://is.gd/2U3tG4>>. Acesso em: 22 jun. 2022.

ONU - Organización de las Naciones Unidas. *Declaración de Estocolmo sobre el medio ambiente humano*. Estocolmo: ONU, 1972.

PHILLIPS, D. 'We are facing extermination': Brazil losing a generation of indigenous leaders to Covid-19. *The Guardian*, London, 21 jun. 2020. Global development. Disponível em: <<https://is.gd/3LjzUF>>. Acesso em: 14 jun. 2022.

QURESHI, J. Defending the environment in the time of COVID-19: increasing threats, clampdowns on freedoms and tragic losses. *Global Witness*, London, 16 set. 2020. Blog. Disponível em: <<https://is.gd/zHTDQq>>. Acesso em: 28 jun. 2022.

RADICCHI, A. L. A.; LEMOS, A. F. *Saúde ambiental*. Belo Horizonte: Nescon/UFMG, Coopmed, 2009.

SANAHUJA, J. A. COVID-19: riesgo, pandemia y crisis de gobernanza global. In: MESA, M. *Riesgos globales y multilateralismo: el impacto de la COVID-19*. Madrid: CEIPAZ, 2020. p. 27-54.

SANTOS, T. M. dos. Terras indígenas protegem a floresta. *Terras Indígenas no Brasil*, São Paulo, 2020. Disponível em: <<https://is.gd/8oXTeO>>. Acesso em: 28 jun. 2022.

WWF - WORLD WIDE FUND FOR NATURE. *Informe planeta vivo 2020: Revertir la curva de la pérdida de biodiversidad*. Resumen. ALMOND, R. E. A.; GROOTEN, M.; PETERSEN, T. (eds.). Gland: WWF, 2020.

XIAO W. et al. 2020. Exposure to air pollution and COVID-19 mortality in the United States: a nationwide cross-sectional study. *Projects at Harvard*, Boston, 2020.

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