Novos Estudos Jurídicos

[NEJ], vol. 29, n. 2, 2024

THE COVID-19 BIOLOGICAL DISASTER AND THE SUSTAINABLE DEVELOPMENT GOALS (SDGs) OF THE 2030 AGENDA

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Contextualization: The current context of the Covid-19 pandemic has sparked discussions about its ramifications beyond public health, especially regarding environmental and sustainable development aspects. This article aims to explore Covid-19 as an ecological disaster, examining its effects on Sustainable Development Goals (SDGs) No. 1, 14, and 15 of the 2030 Agenda. The analysis highlights the interconnection between the health crisis and the goals of poverty eradication, marine and terrestrial life conservation, emphasizing the importance of addressing these challenges sustainably.

Objective: The research aims to investigate the legal nature of the Covid-19 pandemic as an ecological disaster, analyze its effects on SDGs No. 1, 14, and 15 of the 2030 Agenda, and propose strategies to address the pandemic aligned with sustainability.

Method: The research adopts an exploratory approach, supported by deductive reasoning and critical analysis of national and international bibliographic reviews. The goal is to deepen the understanding of the legal nature of the Covid-19 pandemic as an ecological disaster and comprehensively investigate its impacts on SDGs No. 1, 14, and 15 of the 2030 Agenda.

Results: It was concluded that the Covid-19 pandemic triggered a global response and highlighted the urgent need for sustainable approaches to future crises. Significant impacts were observed on SDGs No. 1, 14, and 15, underscoring the interdependence between health, environmental conservation, and poverty eradication. These results emphasize the importance of integrated and sustainable approaches to addressing complex regional and global challenges.

Keywords: 2030 Agenda; Disaster law; Covid-19 pandemic; Risk society; Sustainability.

O DESASTRE BIOLÓGICO DA COVID-19 E OS IMPACTOS NA REALIZAÇÃO DOS OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL (ODS) N. 1, 14 e 15, DA AGENDA 2030

Contextualização do tema: O contexto atual da pandemia de Covid-19 tem gerado discussões sobre suas ramificações além da saúde pública, especialmente em relação aos aspectos ambientais e de desenvolvimento sustentável. Este artigo tem como objetivo explorar a Covid-19 como um desastre ecológico, examinando seus efeitos nos Objetivos de Desenvolvimento Sustentável (ODS) nº 1, 14 e 15 da Agenda 2030. A análise ressalta a interconexão entre a crise de saúde e os objetivos de erradicação da pobreza, conservação da vida marinha e terrestre, destacando a importância de enfrentar esses desafios de forma sustentável.

Objetivo: A pesquisa busca investigar a natureza jurídica da pandemia de Covid-19 como um desastre ecológico, analisar seus efeitos nos ODS nº 1, 14 e 15 da Agenda 2030 e propor estratégias para enfrentar a pandemia alinhadas à sustentabilidade.

Metodologia: A pesquisa adota uma abordagem exploratória, apoiada no raciocínio dedutivo e na análise crítica de revisões bibliográficas nacionais e internacionais. O objetivo é aprofundar o entendimento sobre a natureza jurídica da pandemia de Covid-19 como um desastre ecológico e investigar de forma abrangente seus impactos nos ODS nº 1, 14 e 15 da Agenda 2030.

Resultados: Concluiu-se que a pandemia de Covid-19 desencadeou uma resposta global e destacou a necessidade urgente de abordagens sustentáveis para futuras crises. Foram observados impactos significativos nos ODS nº 1, 14 e 15, evidenciando a interdependência entre saúde, conservação ambiental e erradicação da pobreza. Esses resultados ressaltam a importância de abordagens integradas e sustentáveis para enfrentar desafios regionais e globais complexos.

Palavras-chave: Agenda 2030; Direito de Desastres; Pandemia de Covid-19; Sociedade de Risco; Sustentabilidade.

EL DESASTRE BIOLÓGICO DE LA COVID-19 Y LOS OBJETIVOS DE DESARROLLO SOSTENIBLE (ODS) DE LA AGENDA 2030

Contextualización: El contexto actual de la pandemia de Covid-19 ha generado discusiones sobre sus ramificaciones más allá de la salud pública, especialmente en lo que respecta a los aspectos ambientales y de desarrollo sostenible. Este artículo tiene como objetivo explorar Covid-19 como un desastre ecológico, examinando sus efectos en los Objetivos de Desarrollo Sostenible (ODS) n.º 1, 14 y 15 de la Agenda 2030. El análisis destaca la interconexión entre la crisis sanitaria y los objetivos de erradicación de la pobreza, conservación de la vida marina y terrestre, enfatizando la importancia de abordar estos desafíos de manera sostenible.

Objetivo: La investigación tiene como objetivo investigar la naturaleza jurídica de la pandemia de Covid-19 como un desastre ecológico, analizar sus efectos en los ODS n.º 1, 14 y 15 de la Agenda 2030 y proponer estrategias para enfrentar la pandemia alineadas con la sostenibilidad.

Método: La investigación adopta un enfoque exploratorio, apoyado en el razonamiento deductivo y el análisis crítico de revisiones bibliográficas nacionales e internacionales. El objetivo es profundizar en la comprensión de la naturaleza jurídica de la pandemia de Covid-19 como un desastre ecológico e investigar de manera integral sus impactos en los ODS n.º 1, 14 y 15 de la Agenda 2030.

Resultados: Se concluyó que la pandemia de Covid-19 desencadenó una respuesta global y destacó la necesidad urgente de enfoques sostenibles para futuras crisis. Se observaron impactos significativos en los ODS n.º 1, 14 y 15, subrayando la interdependencia entre salud, conservación ambiental y erradicación de la pobreza. Estos resultados enfatizan la importancia de enfoques integrados y sostenibles para abordar desafíos complejos regionales y globales.

Palabras clave: Agenda 2030; Derecho de desastres; Pandemia de Covid-19; Sociedad del riesgo; Sostenibilidad.

INTRODUCTION

The human being is a relational being who needs constant interaction with the society in which they live. This coexistence involves an association between humans and nature, which is not always carried out following the appropriate environmental parameters, causing an imbalance capable of generating a factor for the crisis.

The post-modern world that has been lived, i.e., related to overconsumption and guided by a colonizing capitalist model. In this context, human's will must overcome environmental resources, even if finite. That is the ideal scenario for ecological imbalance and disasters, as what is happening with the new Coronavirus pandemic.

Covid-19, originating in China, in a place that mixed human and wildlife, was the setting for the emergence of the worst pandemic of the 21st century. It is a disease of zoonotic origin, which evidences the violation of the human being to the natural habitat of animals. This event has stopped the world, making it rethink the way of life and coping with this pathology, requiring a sustainable intervention as an interventionist policy.

Within this scenario of environmental violation, especially given the gravest health crisis of the century experienced by the Covid-19 pandemic, it has been structured this text into three topics. These topics seek to answer the following hypotheses: a) Can the Covid-19 pandemic be classified as a biological disaster? and also b) Did the Covid-19 pandemic impact the development of the 2030 Agenda? In addition, there is an introduction to these themes and final considerations.

The first item aims to demonstrate human interference in natural habitats, correlating the colonization mode as a cause for the disorderly exploitation of natural resources. Afterward, it is highlighted the fact that numerous zoonotic diseases arise in post-modern society due to the role of humans in nature, such as the Covid-19 pandemic. To this end, it is also added brief considerations about the emergence of Covid-19, established a time frame for the diagnosis of the disease for subsequent declaration, by the World Health Organization, as a pandemic, situation of crisis and warned that the entire globe had to face, which caused numerous restrictive measures.

The second topic aims to analyze Covid-19 as a biological disaster by starting a debate about crises, in the risk governance, and concretizing the study of disasters, declaring their importance for social survival, mainly linked to the need to reconstruction from the crisis within the model designed by Daniel Farber in the circle of disasters.

Finally, the third and last item demonstrated the importance of formulating international public policy known as the 2030 Agenda for the construction of a sustainable society under the responsibility of all and the impact on achieving the Development

Sustainable Goals nº 1, 14, and 15 of the 2030 Agenda during the experienced of the Covid-19 pandemic.

It is supported the existence of this research not only by the need to fight the Covid-19 pandemic but mainly by the classification of the pandemic as a biological disaster. It is also pointed out the impacts of its existence on the 2030 Agenda SDGs, especially nº 1, 14, and 15. The classification of the legal nature of the Covid-19 pandemic is crucial for understanding a coping design based on sustainability as a way to mitigate the emergence of the epidemics and pandemics.

The main objective is to classify the Covid-19 pandemic as a biological disaster. The specific ones concern the impacts of the pandemic on the implementation of the 2030 Agenda. In addition, the need for risk management based on sustainability as a way of mitigating the emergence of new epidemics or pandemics.

The present study demonstrated the results of all objectives, starting from the classification of Covid-19 as a biological disaster, since the event reached a significant number of people, on the entire global scale, requiring the intervention of risk management in a harmonious way among all countries in the globalized world. Furthermore, the measures to fight the pandemic could transform the world, directly impacting the objectives described in the 2030 Agenda of the United Nations. That situation allows the reflection on crisis management based on sustainability. This type of reflection comes as a way of preventing the emergence of new pandemics and the protection of human life consequently.

As for the methodology, it was chosen exploratory research, based on national and foreign bibliographic review techniques, through the consultation of scientific articles, books, and authors who directly and indirectly debate the issues addressed in this paper. Therefore, it was brought a review of the existing literature on the subject, seeking the state of the art of the subject and the respective proposal presented, plus a cross-referencing of information obtained from the analysis of legislation and empirical research carried out by international and national bodies. It was used both bibliographic and documentary research as research techniques. Finally, regarding the methods, the logical-deductive method in particular.

1. HUMAN INTERFERENCE IN NATURAL HABITATS AND THE EMERGENCE OF ZOONOTIC DISEASES: BRIEF CONSIDERATIONS ABOUT COVID-19

Disasters are often considered uncommon events that do not belong to normal life. However, in reality, according to the United Nations Office for Disaster Risk Reduction[1], the opposite is true. Disasters and emergencies are parts of everyday life. They are not rare

[1] UNDDR - United Nations Office for Disaster Risk Reduction. 2021. Homepage. http://www.undrr.org/.

events but rather common occurrences. The impacts of disasters are exacerbated by the ways societies are structured (politically, economically, and socially), modes of interaction, and the structures that underpin relationships among decision-makers. Almost daily, somewhere in the world, a disaster occurs. Many of these events are small in scope, with their effects managed using local resources. However, some exceed the local response capacity of governments, public health systems, and relief organizations. These are the disasters that require international assistance, characterizing a humanitarian emergency situation[2].

Mark Anderson & Michael Gerber[3] explain that disasters are triggered by natural forces or events perpetrated by humans. They add that natural disasters include events that occur suddenly, without warning signs, such as earthquakes, floods, tropical storms, tsunamis, volcanic eruptions, and landslides (considered sudden onset disasters) while others develop slowly, with their full impact not felt for years (encompassing droughts, famine, environmental degradation, deforestation, and pest infestations). Thus, disasters are classified into two main categories, natural and human-made, and five subcategories: sudden onset disasters, slow onset risks, technological and industrial events, epidemics, and complex emergencies.

Multiple concepts of disasters are pointed out. However, in the multilevel disaster protection system, there is a lack of a uniform or standardized definition, of general scope, of the meaning and extent of the word "disaster." UNDRR defines a disaster as a severe disruption of the functioning of a community or society at any scale due to hazardous events interacting with exposure, vulnerability, and capacity conditions, leading to one or more of the following consequences: human, material, economic, and environmental losses and impacts.

The relationship between humans and nature has existed since the first civilizations; a link that guarantees the development of humans, who seeks, in the environment, food and materials for their survival, but which, when used disproportionately, can transform the original environment causing imbalance and making appear zoonotic diseases.

For the correlation of human interference in the natural environment and the emergence of zoonotic diseases to occur, it is essential to understand the formation of

[2] ANDERSON, M.; GERBER, M. Introduction to Humanitarian Emergencies. Cambridge. 2018. http://www.cambridge.org/core/services/aop-cambridge-core/content/view/D2A8592F97497D7C786B4EF4B19E081F/9781107062689c1_1-8.pdf/introduction_to_humanitarian_emergencies.pdf.

[3] ANDERSON, M.; GERBER, M. Introduction to Humanitarian Emergencies. Cambridge. 2018. http://www.cambridge.org/core/services/aop-cambridge-core/content/view/D2A8592F97497D7C786B4EF4B19E081F/9781107062689c1_1-8.pdf/introduction_to_humanitarian_emergencies.pdf.

modernity, especially regarding colonization, based on the transfer of natural wealth from one country to another. In other words, the genesis of modernity and inequalities present in this society results from the colonizing process carried out in several continents, based on the exploitation of primary products by the colonized countries and their shipment to the colonizing countries.

From this parasitic relationship, the anthropogenic interference that already existed became even more visible, causing a gigantic stage of environmental degradation. The exploration of nature in plant and mineral extraction carried out came from a scheme of transferring wealth between colonized and colonizing countries. That caused an impact that felt to this day yet. From this time on, it was not possible to "separate 'advance' from destruction, nor 'progress' from waste – even if the results were catastrophic"[4]. And it is within this environment that the current Coronavirus crisis fits in.

The World Health Organization classifies Coronavirus as follows:

> Coronaviruses are a large family of viruses that can cause disease in animals or humans. In humans, several coronaviruses cause respiratory infections ranging from the common cold to graver illnesses such as Middle Eastern Respiratory Syndrome (MERS) and the Severe Acute Respiratory Syndrome (SARS). The most recently discovered Coronavirus causes COVID-19[5].

In another document, the same International Organization[6] states that coronaviruses are zoonotic, that is, transmitted from animals to people. Researchers discovered the same about the New Coronavirus. According to the scientific majority, its genesis connects to the contamination of humans from pangolin and bat species in the Wuhan South China Seafood Wholesale Market[7].

The studies demonstrate that 75% of the diseases that have emerged in the last 50 years have originated from wild animals[8]. The United Nations Environment Program described the "world increase in the emergence of diseases and epidemics, particularly

[4] MÉSZÁROS, István. **A crise estrutural do capital.** São Paulo: Boitempo, 2011, p. 73.

[5] World Health Organization. (2020a). *Coronavirus disease (COVID-19) situation dashboard* Geneva: Author. Retrieved from https://covid19.who.int/.

[6] World Health Organization. Disponível em: who-china-joint-mission-on-covid-19-final-report.pdf].

[7] SCHUCHMANN, A. Z.; SCHNORRENBERGER, B. L.; CHIQUETTI, M. E.; GAIKI, R. S.; RAIMANN, B. W.; MAEYAMA, M. A. Isolamento social vertical x Isolamento social horizontal: os dilemas sanitários e sociais no enfrentamento da pandemia de COVID-19. **Brazilian Journal of Health Review**, v. 3, n. 2, p.3556–3576, 2020.

[8] GEBREYES, W.A. et al. The global on health paradigm: challenges and opportunities for tackling infectious diseases at the human, animal, and environment interface in low-resource settings. **Plos Neglected Tropical Diseases**, v. 8, e3257, 2014.

zoonoses – diseases that can be transmitted between animals and humans"[9]. But whose fault is it? Are wild animals the villains of this pathological relationship?

Zoonoses exist in the natural environmental context. For example, the Ebola or Swine Flu viruses occur naturally on the planet and live within a natural cycle, in which wild animals are the hosts[10]. Within this natural circle, the host already has antibodies to deal with its parasites in a harmonic and balanced way, allowing the healthy coexistence of both species. However, when this circle is under human influence, nature is transformed, and that causes an imbalance capable of originating unimaginable situations, such as zoonotic diseases.

The problem occurs when human actions break the natural cycle of the virus, allowing its genetic recombination. Thus, the virus previously linked to wild species and within the natural context, can infect other animal species, such as humans, exposing these organisms to their diseases. However, due to this environmental transformation, the antibody used by wild animals to combat the pathology is not produced by other species, which can cause epidemics or pandemics.

Thus, what transforms zoonotic diseases into an epidemic or pandemic is the environmental imbalance. But how does this imbalance happen? There are numerous ways of violating environmental imbalance. Some of them relate to the consumption of wild animals, wildlife trafficking, deforestation, unruly plant and mineral extraction, and so on[11].

This way, "environmental degradation manifests itself as a symptom of a crisis of civilization, marked by the model of modernity governed by the predominance of technological development over the organization of nature"[12]. This situation is evidenced in the historical process of colonization, as well stated by François Ost: "[...] human beings transform nature since their appearance. [...], humans, just by their presence, overwhelm the ecosystems that shelter them"[13].

Given the above, it's possible to conclude that they are the villains of the emergence of zoonotic diseases. In their adaptive evolution, they could carry out significant interventions in the environment, unbalancing it. The wild animal, seen by many as the cause of zoonotic diseases, cannot be held accountable for this unequal balance. They have always

[9] UNITED NATIONS ENVIRONMENT PROGRAMME. UNEP 2016 Report: Emerging Issues of Environmental Concern. Nirobi: UNEP, 2016. p. 04.

[10] JONES, K.E.; PATEL, N.G.; LEVY, M.A.; STOREYGARD, A.; BALK, D.; GITTLEMAN, J.L.; DASZAK, P. Global trends in emerging infectious diseases. **Nature**, v. 451, p. 990-993, 2008.

[11] ADHIKARI. S.P. et al. Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. **Infectious Diseases of Poverty**, v. 29, p. 1-12, 2020.

[12] LEFF, Enrique. Sustentabilidad y racionalidad ambiental: hacia 'otro' programa de sociología ambiental. **Revista mexicana de sociología**, vol. 73, n. 1, 2011.

[13] OST, François. A natureza à margem da lei: a ecologia à prova do direito. Lisboa: Instituto Piaget, 1995.

been restricted to their natural habitat. The researcher Délton Winter de Carvalho defends the thesis of the emergence of zoonoses as a consequence of human activity in the natural habitat of wild animals:

> Zoonotic diseases are constantly associated with ecological changes or disturbances, in a direct relationship between ecosystem degradation and the emergence and spread of pathogens from wildlife to humans. Approximately 60% of all infectious diseases in humans are zoonotic. Therefore, on average, there is the emergence of a new infectious disease in humans every four months. In recent years, there was an increase in the emergence of various zoonotic diseases, such as AIDS, Ebola, avian flu, MERS, SARS, Zika virus, etc. Thus, zoonoses are real threats to economic development, ecosystem integrity, and animal and human well-being[14].

The effects of the unrestrained use of natural resources by human action have intensified in recent years. The emergence of various zoonotic diseases is the main showcase of this imbalance. Due to human action in nature and the absence of an efficient environmental protection policy, Brazil accumulates conditions to become the epicenter of various zoonoses. In other words, it is a true incubator for epidemics and pandemics because, in the last 50 years, more than 1.8 million Km² of vegetation in the Amazon and Cerrado biomes[15] were devastated for monoculture cultivation and pasture formation[16].

Only in the first quarter of 2020, there was a 51% increase in burning in the Amazon Forest, compared to 2019[17]. That is an ideal scenario for the emergence of a malaria epidemic since 1 Km² of destruction of the Amazon Forest is responsible for the appearance of 27 new cases[18]. If scientists do not know of all the ecological diversity sheltered in the different Brazilian biomes, how can they measure the number of lethal pathogens in that environment? In other words, how to catalog and scale the possible zoonoses sheltered there? It is something that transcends human wisdom.

The destruction of natural habitats by human activity, by various means such as mining, extraction, livestock, agriculture, wildlife trafficking, consumption of game meat,

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[14] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

[15] STRASSBURG, B.B.N. et al. Moment of truth for the Cerrado hotspot. **Nature Ecology & Evolution**, v. 1, p. 1-3, 2017.

[16] MACEDO, F. Consumo de carne bovina no Brasil cresceu 14% em 10 anos, diz Cepea. **Canal Rural**, 2019.

[17] INSTITUTO DE PESQUISA AMBIENTAL DA AMAZÔNIA (IPAM). 2020 Available on https://ipam.org.br/desmatamento-em-terras-publicas-na-amazonia-explode-e-pode-alimentar-estacao-de-fogo/. Access on May 16, 2020.

[18] CHAVES, L.S.M.; CONN, J.E.; LÓPEZ, R.V.M.; SALLUM, M.A.M. Abundance of impacted forest patches less than 5 km is a key driver of the incidence of malaria in Amazonian Brazil. **Scientific Reports**, v. 8, p. 1-11, 2018.

among others, considerably increases the contact of wild animals with human beings, either in its direct form or through a domesticated animal, a situation that favors the emergence of zoonotic diseases[19], such as Covid-19.

Thus, zoonoses and pandemics show a global pattern closely linked to environmental, ecological, and socioeconomic factors[20], a favorable scenario to the increase in zoonotic pathologies, currently represented as 75% of contagious diseases[21]. It is within this context that the current Covid-19 pandemic settles in, proving to be one of the biggest disasters of the 21st century.

Chinese authorities reported the Covid-19 pandemic caused by the Coronavirus in December 2019, following a rapidly spreading pneumonia outbreak in Wuhan with great potential to cause a pandemic[22]. The genesis of the first transmission of the disease is still uncertain, with no consensus in the scientific community. However, the majority trend is that the emergence of the transmission of the new Coronavirus came from eating wild animals for being human[23], as the first cases occurred in people living in a place in common: Wuhan South China Seafood Wholesale Market [24].

After identifying the virus and isolating its genetic material, the pathogen causing pneumonia was found to be highly transmissible and on January 30th, 2020 the World Health Organization (WHO) declared the SARS-CoV-2 outbreak as a public health emergency with cross-border concerns, becoming an international issue.

It did not take long for the director of the same international organization (WHO), Tedros Adhanom, to recognize the SARS-CoV-2 outbreak as a pandemic, which occurred on March 11th, 2020[25]. The virus caused by a Chinese epidemic could spread quickly across the

[19] VOLPATO, G.; FONTEFRANCESCO, F.M.; GRUPPUSO, P.; ZOCCHI, D.M.; PIERONI, A. Baby pangolins on my plate: possible lessons to learn from the COVID-19 pandemic. **Journal of Ethnobiology and Ethnomedicine**, v. 2020, p. 16-19, 2020.

[20] JONES, K.E.; PATEL, N.G.; LEVY, M.A.; STOREYGARD, A.; BALK, D.; GITTLEMAN, J.L.; DASZAK, P. Global trends in emerging infectious diseases. **Nature**, v. 451, p. 990-993, 2008.

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[23] COSTA, M. B. O aumento abusivo de preços referente a utensílios e medicamentos em tempos de pandemia. **Revista de Direito, Globalização e Responsabilidade nas Relações de Consumo**, v. 6, n. 2, p. 37-54, 2020.

[24] SCHUCHMANN, A. Z.; SCHNORRENBERGER, B. L.; CHIQUETTI, M. E.; GAIKI, R. S.; RAIMANN, B. W.; MAEYAMA, M. A. Isolamento social vertical x Isolamento social horizontal: os dilemas sanitários e sociais no enfrentamento da pandemia de COVID-19. **Brazilian Journal of Health Review**, v. 3, n. 2, p.3556–3576, 2020

[25] OLIVEIRA, E.; MORAIS, A. C. L. N. Covid-19: uma pandemia que alerta à população. **InterAmerican Journal of Medicine and Health**, v. 3, p. 1-7, 2020.

globe, reaching, on April 16th, 2020, the mark of two million infected and more than 130 thousand deaths[26]. On the same date, Brazil, despite the delay in notifications and the absence of mass tests[27], had 30,425 confirmed cases and 1,924 deaths[28]. The statistics presented in the studies show that a Coronavirus reproduction rate[29] ranges from 1.4 to 3.9[30] depending on its location, which prevents an accurate study of the duration of the pandemic.

Concerning this scenario, several government authorities began to adopt strategies aimed at reducing the contamination of the disease and, consequently, reducing the progression of the pandemic[31], as the consequences for humanity are incalculable: it is not just about loss of economic potential but mainly from emotional data resulting from the high rate of deaths and social isolation[32].

The pandemic has shaken the entire social structure. However, without a doubt, more pronounced in places with fewer resources to fight it, further highlighting the inequalities already installed across the globe. The social vulnerability that has screamed for help for years, takes on an even sadder look in the face of the new Coronavirus health crisis:

> COVID-19 will have a major impact on resource-poor environments. 20% of patients with COVID-19 are seriously ill with hypoxia or respiratory failure [...]. Critical illness, which describes any acute, life-threatening condition, is receiving increased attention in global health because of its high disease burden and population impact[33].

The globally installed inequality further divides rich and poor countries in this pandemic context, as the search for health and preservation of life begins to highlight the

26 SCHMIDT, B., CREPALDI, M. A., BOLZE, S. D. A., NEIVA-SILVA, L., & DEMENECH, L. M. (2020). Saúde mental e intervenções psicológicas diante da pandemia do novo coronavírus (COVID-19). *Estudos de Psicologia* (Campinas), 37, e200063. Disponível em: http://dx.doi.org/10.1590/1982-0275202037e200063.

27 RUSSELL, T. W.; HELLEWELL, J.; ABBOTT, S.; JARVIS, C. I., VAN ZANDVOORT, K., CMMID nCov working group, Flasche, S., ucharski, A. J. 2020. *Using a delay-adjusted case fatality ratio to estimate under-reporting* Retrieved from https://cmmid.github.io/topics/covid19/severity/global_cfr_estimates.html

28 World Health Organization. (2020a). *Coronavirus disease (COVID-19) situation dashboard* Geneva: Author. Retrieved from https://covid19.who.int/.

29 Entende-se por taxa de reprodução o número médio de novos casos a partir de um caso.

30 VILLELA, D. A. M. (2020). The value of mitigating epidemic peaks of COVID-19 for more effective public health responses. *Revista da Sociedade Brasileira de Medicina Tropical, 53*, e20200135. http://dx.doi.org/10.1590/0037-8682-0135-2020

31 KRAEMER MUG, YANG CH, GUTIERREZ B, et al. The effect of human mobility and control measures on the COVID-19 epidemic in China. Science (New York, N.Y.). 2020 May;368(6490):493-497. DOI: 10.1126/science.abb4218.

32 SHOJAEI, S. F., & MASOUMI, R. (2020). The importance of mental health training for psychologists in COVID-19 outbreak. *Middle East Journal of Rehabilitation and Health Studies, 7*(2), e102846. http://dx.doi.org/10.5812/mejrh.102846

33 BAKER, T.; SCHELL, C. O.; PETERSON, D. B.; SAWE, H.; KHALID, K.; MNNDOLO, S.; RYLANCE, J.; MCAULEY, D. F.; ROY, N.; MARSHALL, J.; WALLIS, L; MOLYNEUX, E.. Essential care of critical illness must not be forgotten in the COVID-19 pandemic. **The Lancet**, v. 395, n. 10232, p. 1253-1254, 2020.

social abyss faced by vulnerable groups[34]. Richer countries are able to structure a public health policy, with the construction of adequate places, purchase of materials and investments in science in search of a vaccine, more effectively when compared to poor countries, reflecting the great historical deficit of colonization.

It is within this social context of inequality that the origin of the virus must be studied, as human interference in the natural habitats of animals and the lack of control over an environmental policy is the main cause of disasters, such as the Covid-19 pandemic, a subject that will be covered in the next topic.

2. CONCEPT OF DISASTER LAW AND THE CLASSIFICATION OF THE COVID-19 PANDEMIC AS A BIOLOGICAL DISASTER

Covid-19, which emerged in 2019 and still operating in a worrying way in the first semester of 2021, was responsible for the death of more than 4 million people[35], being considered one of the biggest crises faced globally, its main cause being the environmental imbalance.

News such as floods, landslides, earthquakes, and cyclones have been responsible for the death of millions of people, gaining considerable space in the international media. It is within this perspective that Ulrich Beck classifies the current society as a "risk society", also called "catastrophic society"[36]. Natural and technological disasters appear as the central element. The author also emphasizes that the model of capitalist economic development is the precursor of the great production of wealth but mainly through the construction of different kinds of risks[37].

Understanding the concept of crisis is fundamental for the dialogue with Disaster Law, the object of this topic. The crisis is closely related to the trajectory of capital, as technological development ends up exposing capital to its logical limit[38]. Environmental disasters were intensified from the 1970s on, the same temporal lapse of capital expansion[39], which demonstrates the great influence of human being on the environment capable of generating environmental disasters.

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[34] CRUZ, A. A.; MOURA, J. P.; DANTAS, R. P. S. Sociedades em tempos de pandemia: análises de conjunturas econômicas versus a crise na saúde pública, fundamentação na sociologia contemporânea. **Revista JRG de Estudos Acadêmicos**, v. 3, n. 7, p. 765-791, 2020.

[35] GOOGLE Notícias. Available on: Coronavírus (COVID-19) - Google Notícias.

[36] BECK, Ulrich, **Sociedade de Risco**. Rumo a uma outra modernidade. São Paulo: Editora 34, 2013, p. 28.

[37] BECK, Ulrich, **Sociedade de Risco**. Rumo a uma outra modernidade. São Paulo: Editora 34, 2013, p. 28.

[38] KURZ, Robert. **Os últimos combates. Petrópolis**: Editora Vozes, 1997.

[39] CARMO, Roberto Luiz do; ANAZAWA, Tathiane Mayumi. **Mortalidade por desastres no Brasil**: o que mostram os dados. Ciênc. saúde coletiva, Rio de Janeiro, v.19, n. 9, sept. 2014.

The investigation of environmental disasters takes on a new guise from the 1970s, originating the study of the Sociology of Disasters, which states that disasters are social phenomena that originate in the social structure. In other words, they are products of an association of threats and of social vulnerabilities, which mostly imply in "social conditions of existence of a population that strongly determine the level of destruction or interruption of essential services in a society"[40].

Concerning this scenario, in 2000 the United Nations created the International Strategy for Disaster Reduction (ISDR), which conceptualizes disaster as:

> a serious interruption in the functioning of a community or society that causes a large number of deaths and equal loss and material, economic, and environmental impacts that exceed the ability of an affected community or society to deal with the situation through the use of its own resources[41].

But this is not the only concept of disaster, as shown in the table below[42]:

Tampere Convention on the Provision of Telecommunications Resources for Disaster Mitigation and Relief Operations (1998).	"Disaster" is a serious disruption in the functioning of society, which generates a significant and widespread threat to human life, health, property, or the environment, whether this disruption is caused by an accident, nature, or human action, suddenly or as a result of complex and long-term processes."
Agreed Glossary of Basic Terms Related to Disaster Management, United Nations Department of Humanitarian Affairs, (1992).	"Disaster is a serious interruption in the functioning of society, causing extensive human, material, or environmental losses that exceed the capacity of the affected society to deal with it only with its own resources."
Agreement Establishing the Caribbean Disaster Emergency Management Agency	Disaster means a sudden event directly and exclusively attributed to the operation of

40 UFSC -UNIVERSIDADE FEDERAL DE SANTA CATARINA. **Capacitação básica em defesa civi**l. Florianópolis: CEPED UFSC, 2014.

41 Glossário da Estratégia Internacional para Redução de Riscos e Desastres. Termo "Desastre", p. 8.

42 FREITAS, Christiana Galvão Ferreira de. **Perspectivas e desafios à gestão de riscos e desastres: uma análise sobre a configuração do direito de desastres no mundo e no Brasil.** (2014). Thesis (Ph.D in Law). University of Brasília – DF, Brazil.

(CDEMA). Article 1. (d):	forces of nature or human intervention or both. It is characterized by widespread destruction of lives or property, accompanied by extensive displacement of public services. However, they exclude events caused by war, military confrontation, or mismanagement of resources.
Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (2000) Article 1	"The term “natural or technological disaster” means a situation of great distress involving loss of human life or large-scale damage to property, caused by a natural phenomenon, such as a cyclone, tornado, earthquake, volcanic eruption, flood or forest fire, or by a technological accident, such as pollution by hydrocarbons, toxic or radioactive substances”.
Framework Convention on Civil Defense Assistance (2000), International Civil Defense Organization. Art. 1.	“Disaster is an exceptional situation in which life, property or the environment may be at risk”.
Association of Southeast Asian Nations (ASEAN) Agreement on Disaster Management and Emergency Response (2005)	"Disaster means a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses."
Special Rapporteur on the topic “Protection of Persons in the Event of Disasters”, CDI, UN (2007)	"The incident of a ‘disaster’ occurs due to the risk process, namely, due to the degree of exposure of people, infrastructure, and economic activities in relation to the danger, such as an earthquake or a tornado, as well as the vulnerability of those exposed to that danger.”
International Federation of the Red Cross	Disaster is a “serious disturbance in the functioning of a community or society, involving losses and human, material, economic, or environmental impacts, which exceed the capacity of the affected

	community to respond and deal with this situation through its own resources. Although they are often caused by nature, disasters can be caused by human actions."

Faced with various conceptualizations about disasters, this chapter will address the Coronavirus pandemic as a biological disaster, using as theoretical framework the doctrine professor Délton Winter de Carvalho. For him, the disaster happens in a relationship among causes, consequences, and stability of the social system:

> the formation of the meaning of disasters is found in a pendular semantic relationship among: (i) causes and (ii) highly specific and complex consequences, converging to the description of socio-environmental phenomena of great media appeal and economic, political, legal, and environmental irradiation, capable of compromising the (iii) stability of the social system. Disasters are conceptually a systemic cataclysm of causes that, combined, have catastrophic consequences[43].

Disasters can be classified, for educational purposes, as natural, mixed, or anthropogenic. Within this correlation and considering the current society, we can affirm that the intervention of humans in nature can trigger disasters. Most of these, even if classified as natural, have anthropogenic intervention[44]. And to make possible the correlation between Covid-19 and biological disaster, it is essential to study the relationship among cause, consequence, and stability of the social system.

The first aspect to classify the Covid-19 pandemic as a biological disaster is found in the emergence of the disease as a zoonosis. That is, that disease that transgresses its natural host, through genetic modifications and ends up contaminating the human being, causing an ecological imbalance and collapse of the global public health system[45].

The second dimension to this classification considers the consequence caused by the pandemic. In this sense, it is important to mention that "disasters are constantly described as events that lead to human, public health, property, or non-environmental losses"[46] and that

[43] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

[44] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

[45] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

[46] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

act at the level of society (societal disasters)[47].

Délton Winter de Carvalho states that, to be considered a disaster, an event must fulfill three requirements: "(a) 10 or more human deaths [...]; (b) at least 100 people affected (in need of food, water, basic and sanitary care, displaced and injured); (c) a state of emergency has been declared; (d) there has been a request for international assistance"[48].

The current Covid-19 pandemic fulfills all of them. The numbers of death and contamination from the disease demonstrate the gigantic proportion of the disaster caused by the new Coronavirus. Furthermore, the economic impact arising mainly from the lockdowns carried out to contain the advance of the pathology is gigantic, putting countless people in a situation of social vulnerability. Besides, a state of emergency/public calamity was declared internationally, mobilizing all international organizations to verify a risk analysis and sanitary protocol.

Finally, the third one is social stability. At this point, Délton Winter de Carvalho states:

> The systemic analysis of disasters demonstrates, in turn, the fact that they are highly complex phenomena and consist of multifaceted causes and serious consequences. The interaction among these factors highlights the relevance of a systemic analysis of such phenomena for the formation of their meaning. Systemically, disasters arise from natural, technological, or socio-political circumstances. This combination of exogenous and endogenous factors to the social system can cause the loss of its systemic stability. Compromising this stability thus affects the breakdown of collective routines inherent to communities, society, and the need for urgent (and generally unplanned) measures to manage (re-establish) the situation. Disasters are extreme phenomena capable of reaching systemic-social stability, in a process of irradiation and feedback of their economic, political, legal, and scientific causes and effects[49].

Given this systemic criterion, the Covid-19 pandemic can be classified as a disaster, as it is responsible for systemic social destabilization, internationally. In other words, the whole world, seeking to control the advance of the pathology, carried out several sanitary decrees, restricting freedom as a whole (individual and collective).

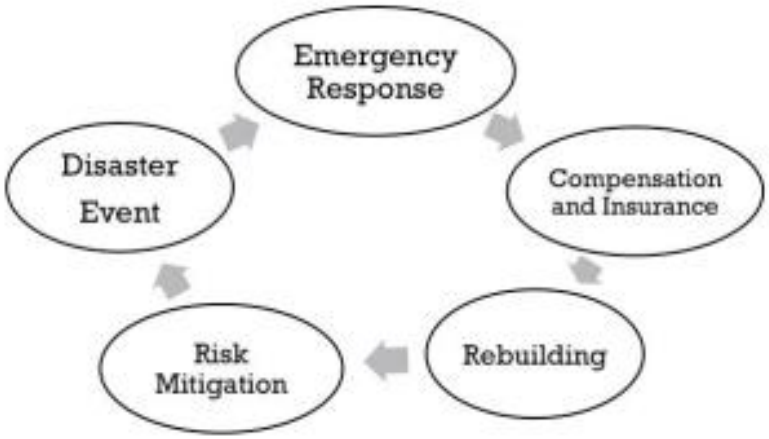
But how important is it to link the Covid-19 pandemic to a disaster? The classification of the Covid-19 pandemic as a disaster helps in the intervention of Law for the dialogue among diagnosis, prognosis and intervention. That is, risk management must be done

[47] Sugerman, Stephen D. "Roles of Government in Compensating Disaster Victims". Issues in Legal Scholarship. Symposium: Catastrophic Risks: prevention, compensation, and recovery. Article 1. **Berkeley: UC Berkeley Electronic Press**, 2007. p. 1.

[48] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

[49] CARVALHO, Délton Winter de. A natureza jurídica da pandemia Covid-19 como um desastre biológico: um ponto de partida necessário para o Direito. **Revista dos tribunais.** V. 1017/2020, p. 246-267, jun-2020.

in each area of law and within what Daniel Farber classifies as a Circle of Disaster Law:



Source: FARBER, Daniel. Disaster Law and Emerging Issues in Brazil[50].

Daniel Farber, when describing the Circle of Disaster Law, states that the construction of risk management requires four cyclical stages: prevention, mitigation, emergency response, and recovery and reconstruction. The first two phases are responsible for the correlation between previous events and the disaster itself, while the last two focus on the occurrence of the disaster and dealing with its consequences in a sustainable manner and with the scope of reducing the risk generated[51]. But how to work at each stage of the disaster cycle?

As mentioned, the first step of the disaster right circle is known as the prevention phase, which considers the observation of the occurrence of the disaster. The goal is to learn from the event to avoid new similar disasters.

The second moment is mitigation, which is a detailed risk analysis to draw up a plan to deal with the disaster and reduce the risk. The goal is conditional on avoiding the worsening of the situation that caused the disaster and reducing the risk caused. In other words, which involves mitigation, it is found that it is essential to reduce the risks associated with the occurrence of the disaster because it includes the planning of actions to be taken, such as the construction of new infrastructure, such as reinforcement of dikes or dams for control flood control, land use controls to relocate homes to safe locations. Regardless of the action, it is crucial that there is risk management aimed at avoiding a worsening of the

[50] Figure extracted from the article FARBER, Daniel. Disaster Law and Emerging Issues in Brazil. **Revista de estudos constitucionais, hermenêutica e teoria do direito**-(RECHTD), 4(1): 2-15 jan.-jun. 2012.

[51] FARBER, Daniel A. Catastrophic Risk, Climate Change, and Disaster Law. Asia Pacific Journal of Environmental Law, Vol. 16, 2013: 37-54. Available at: https://search.informit.org/doi/abs/10.3316/informit.779866934589917.

situation.52

The third one is the emergency response, a situation that happens right after the disaster takes place and has the scope of emptying the disaster site, saving lives (in all its forms), quantifying survivors, and allocating basic resources such as food, shelter, and water to all survivors. Actions are needed to help people get out of the place of risk, check survivors and save people who are still in danger, and help with basic supplies such as health, food, hygiene, and shelter. This phase is one of the most important to avoid aggravating vulnerability, because if the measures taken are not quick and effective, the victims are in a situation of helplessness.53

Finally, the fourth stage of the circle describes the need for disaster recovery and reconstruction to mitigate the negative impacts of the risk. At this stage, the greater is the study of the impact of the disaster, the better is the design of the recovery of that location. The last phase is compensation and reconstruction. It takes place after the emergency, and attempts are made to reconstruct the disaster site and find those responsible. After the event, what remains to be done is to compensate for the losses and damages to mitigate the negative impacts. The better the other phases, especially the first two, are planned and executed, the less attention will be needed to this phase, as damage was successfully avoided and lives were not lost. But if there was no action or they were insufficient, a lot will have to be spent in this phase54.

Compensation to victims can come from private institutions, the government, non-governmental organizations, international humanitarian aid organizations, other States and even individuals who are aware of the situation they are experiencing. “The point of compensation is to give people the resources to begin to rebuild their lives”55.

Thus, the intervention to face the Coronavirus crisis must be carried out within the circle of the disaster so that it is possible to identify the variables and, consequently, reduce the impact of the consequences of this disease worldwide. In other words, facing the

52 FARBER, Daniel A. Catastrophic Risk, Climate Change, and Disaster Law. Asia Pacific Journal of Environmental Law, Vol. 16, 2013: 37-54. Available at: https://search.informit.org/doi/abs/10.3316/informit.779866934589917

53 FARBER, Daniel A. Catastrophic Risk, Climate Change, and Disaster Law. Asia Pacific Journal of Environmental Law, Vol. 16, 2013: 37-54. Available at: https://search.informit.org/doi/abs/10.3316/informit.779866934589917

54 FARBER, Daniel A. Catastrophic Risk, Climate Change, and Disaster Law. Asia Pacific Journal of Environmental Law, Vol. 16, 2013: 37-54. Available at: https://search.informit.org/doi/abs/10.3316/informit.779866934589917

55 FARBER, Daniel A. Catastrophic Risk, Climate Change, and Disaster Law. Asia Pacific Journal of Environmental Law, Vol. 16, 2013: 37-54. Available at: https://search.informit.org/doi/abs/10.3316/informit.779866934589917

pandemic as a disaster "is allowing the adoption of efficient risk management policies"[56] so that there is systemic coherence in each field of activity. And it is within this perspective that I will structure that the next topic.

3. THE COVID-19 PANDEMIC AND THE IMPACTS ON SDG 1, 14, and 15 OF THE 2030 AGENDA

The Covid-19 pandemic, as reported above, caused numerous disasters (social, economic, political, etc.), requiring international assistance to contain the spread of the disease. However, even if international cooperation has taken place, the impacts are of gigantic proportions, affecting the sustainable performance described in 2030 Agenda. But what is 2030 Agenda about?

> The 2030 Agenda is an action plan for people, planet, and prosperity that seeks to strengthen universal peace. The plan indicates 17 Sustainable Development Goals, the SDGs, and 169 goals, to eradicate poverty and promote a decent life for all, within the limits of the planet. These are clear objectives and goals for all countries to adopt according to their own priorities and to act in the spirit of a global partnership that guides the choices needed to improve people's lives, now and in the future[57].

In other words, it is a synergy carried out by all member states of the United Nations with the aim of promoting sustainable development. Thinking about the sustainability of the planet, 2030 Agenda outlined 17 Sustainable Development Goals (SDGs) and 169 goals in favor of the balance between the three dimensions of sustainable development: social, economic, and environmental, so that each of the SDGs are indivisible[58].

The 2030 Agenda is not part of a plan, unique and exclusive to the member states, but also to the local authorities, the private sector, civil society, and all citizens that make up the member states.

In each SDG there are several goals designed to reach the goal by the year 2013. Even though the international public policy was designed within the SDGs and the goals described for the agenda were achieved, the Covid-19 pandemic brought significant impacts on many of the goals. However, this chapter will make a more concrete analysis in SDGs 1, 14, and 15 of the 2030 Agenda.

The first SDG entitled No Poverty: ending poverty in all its forms, everywhere has

[56] CARVALHO, Délton Winter de. As responsabilidades civil e administrativa de agentes públicos face à pandemia de covid-19 conforme a medida provisória nº 966/2020 e a interpretação restritiva de "erro grosseiro" exarada pelo Supremo Tribunal Federal: uma análise a partir da perspectiva do direito dos desastres. **Revista Jurídica.** V. 01, nº 03, Curitiba, 2021. p. 139-169.

[57] Agenda 30. Available on: http://www.agenda2030.com.br/sobre/.

[58] Figure printed from 2030 Agenda. Available on: http://www.agenda2030.com.br/sobre/.

the ability to satisfactorily address one of the main social ills in the world: poverty, many of them extreme.

Poverty is a devastating reality of millions of people and which is conditioned to the violation of human dignity. With this in mind, The Copenhagen Declaration and Program of Action: World Summit for Social Development - 1995, designed an action to eradication of poverty, later confirmed as SDGs:

> Chapter II – Eradication of Poverty
>
> Fundamentals of action and objectives
>
> 18. **Over 1 billion people in the world today live under unacceptable conditions of poverty**, mostly in developing countries, and particularly in rural areas of low-income Asia and the Pacific, Africa, Latin America and the Caribbean, and the least developed countries.
>
> 19. Poverty has various manifestations, including lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments; and social discrimination and exclusion. It is also characterized by a lack of participation in decision-making and in civil, social and cultural life. It occurs in all countries: as mass poverty in many developing countries, pockets of poverty amid wealth in developed countries, loss of livelihoods as a result of economic recession, sudden poverty as a result of disaster or conflict, the poverty of low-wage workers, and the utter destitution of people who fall outside family support systems, social institutions and safety nets. Women bear a disproportionate burden of poverty, and children growing up in poverty are often permanently disadvantaged. Older people, people with disabilities, indigenous people, refugees and internally displaced persons are also particularly vulnerable to poverty. Furthermore, poverty in its various forms represents a barrier to communication and access to services, as well as a major health risk, and people living in poverty are particularly vulnerable to the consequences of disasters and conflicts. Absolute poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services. [...][59] (emphasis added).

This objective was designed because, contrary to what many believe, poverty is not only a reality in underdeveloped countries. It is rooted in all countries, only varying the number of people in certain nations, "with people considered poor making up the absolute majority of the world's population."

[59] ONU - ORGANIZAÇÃO DAS NAÇÕES UNIDAS. Cúpula Mundial sobre Desenvolvimento Social. Declaração e Programa de Ação da Cúpula Mundial sobre o Desenvolvimento Social. Copenhague, March, 06-12, 1995. Available on: < Biblioteca Virtual de Direitos Humanos da USP - Declaração e Programa de Ação da Cúpula Mundial sobre Desenvolvimento Social - Copenhague -1995 | Conferências de Cúpula das Nações Unidas sobre Direitos Humanos >.

To quantify extreme poverty, the World Bank established a methodological criterion known as *Dollar a day* and established that the identification of extreme poverty was conditioned to the receipt, per capita, of US$ 1.9 per day, equivalent to R$ 145.00 per month[60], which cannot be converted considering the exchange rate, but the purchasing power parity (PPP) which is "more stable and calculated to preserve the real purchase value of the different currencies of the world[61]".

The Covid-19 pandemic, as already mentioned, had a substantial impact on the economy, mainly due to the need to contain the spread of the disease. One of the ways of confronting the advance of the Coronavirus was the decree of lockdown and restriction of social interaction policies, directly impacting various economic sectors such as the events sector and tourism, and, as a consequence, whether directly or indirectly, in the jobs and incomes of diverse people.

The International Labor Organization "predicts that the COVID-19 crisis make disappear by 6.7% of working hours in the second quarter of 2020, which is equivalent to 195 million full-time workers in the world"[62].

UNCTAD's Least Developed Countries Report 2020, an intergovernmental body whose purpose is to promote the integration of developing countries in the world economy, predicts that the decline of income levels, widespread unemployment and growing fiscal deficits caused by the Covid-19 pandemic could lead 32 million people to extreme poverty in the 47 countries considered least developed by the United Nations (UN):

> The least developed countries today are going through the worst recession in 30 years," writes UNCTAD Secretary-General Mukhisa Kituyi in the preface of the document. "Their already low standards of living are falling. Its stubbornly high poverty rates are increasing even more, reversing the slow improvement they had already seen achieved before the pandemic. Progress towards advances in nutrition, health, and education is being undermined by the crisis[63].

The report also predicts that global levels of poverty and insecurity will increase

[60] NERY, Carmen. Extrema pobreza atinge 13,5 milhões de pessoas e chega ao maior nível em 7 anos. **Agência IBGE Notícias**, **11.**06.2019. Available on: < https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/25882-extrema-pobreza-atinge-13-5-milhoes-de-pessoas-e-chega-ao-maior-nivel-em-7-anos >

[61] TRONCO, Giordano Benites; RAMOS, Marília Parra. Linhas de pobreza no Plano Brasil sem miséria: análise crítica e proposta de alternativas para medicação da pobreza conforme metodologia de Sonia Rocha. **Revista de Administração Pública**. Rio de Janeiro 51, mar-abr, 2017, p. 294-311.

[62] International Labour Organization. ILO Monitor: COVID-19 and the world of work. Second edition. Available on: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_740877.pdf

[63] PLADSON, Kristie. Covid-19 aumentará miséria e países mais pobres, alerta ONU**. Dw.com**, December 03, 2020. Available on: < https://www.dw.com/pt-br/covid-19-aumentar%C3%A1-mis%C3%A9ria-em-pa%C3%ADses-mais-pobres-alerta-onu/a-55810768 >. Accessed on January 10, 2020.

and the proportion of people living below the poverty line (according to the World Bank classification) will increase by three percentage points, reaching the mark of 35.2% of the population quantifying more than 32 million people[64]. Given this, it is perfectly possible to design a chaotic scenario with a great social impact, which will replicate negatively in SDG 1 of 2030 Agenda.

Visiting the 17 Sustainable Development Goals, we can verify the SDG 14 entitled Life Below Water: conserve and promote the sustainable use of oceans, seas, and marine resources for sustainable development, an agenda that has the scope to promote reduction of androgenous impact on ocean life.

Due to the restriction measures to fight Covid-19, there was a considerable reduction in the flow of people around the world, positively impacting the reduction of pollution levels. The quarantine decreed by human action to contain a zoonotic virus was crucial for nature to demonstrate that it is possible to face up to the planet's sustainable recovery.

According to Bronwyn Kienapple, in a study demonstrating the impact of the pandemic on the environment, there was a substantial reduction in the emission of greenhouse gases in various parts of the globe: in the United States there was a 40% decrease, due to the decrease in domestic air traffic, while in Madrid, the reduction was 75% and in China, 25%[65].

In line with the study reported above, the article by Zambrano-Monserrate describes the evolution of concentrations of nitrogen dioxide (NO_2) in the Chinese atmosphere, as well as the description of the quality of beach water at an international level, the reduction of noise and the increase in the use of plastics, since all the materials used are disposable[66]. In the light of this scenario and to demonstrate the effects of the Covid-19 pandemic in SDG 14, an analysis of the impact of the pandemic on the atmosphere and water will be carried out.

The first aspect to be addressed is the impact of the pandemic on the air. With the decrease in the movement of people, the reduction of land and air transport and the stoppage/attenuation of industrial activity, the emission of greenhouse gases decreased,

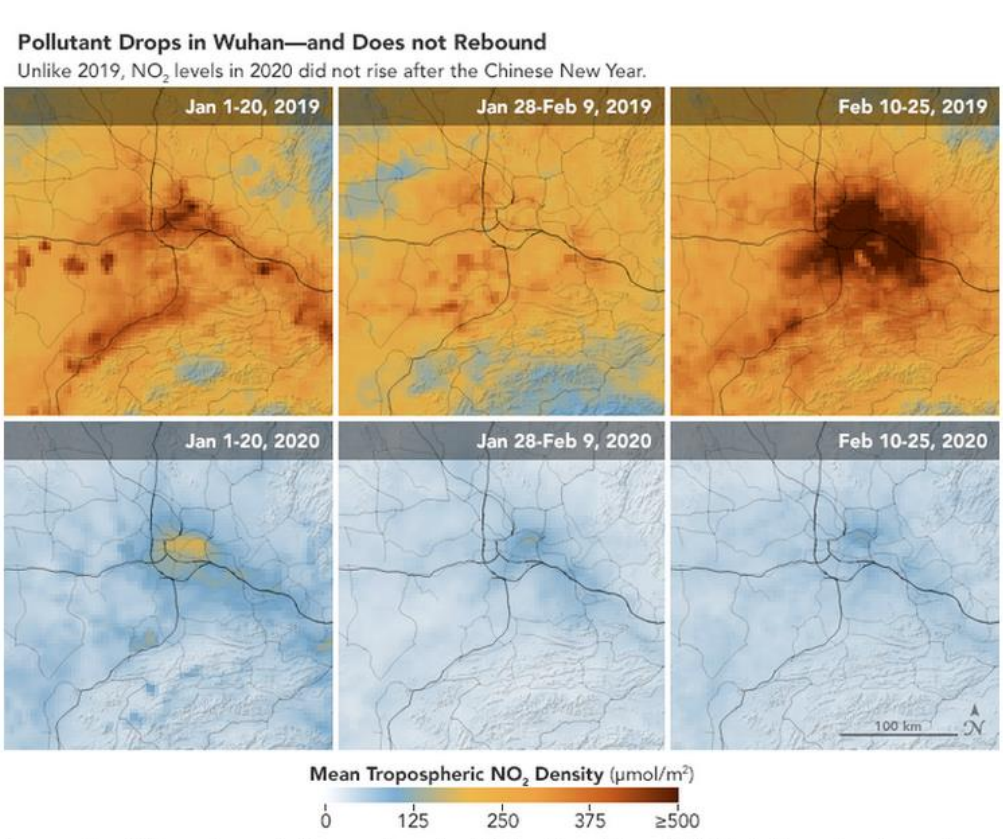
[64] PLADSON, Kristie. Covid-19 aumentará miséria e países mais pobres, alerta ONU**. Dw.com**, December 03, 2020. Available on: < https://www.dw.com/pt-br/covid-19-aumentar%C3%A1-mis%C3%A9ria-em-pa%C3%ADses-mais-pobres-alerta-onu/a-55810768 >. Accessed on January10, 2020.

[65] KIENAPPLE, Bronwyn. **O impacto ambiental da pandemia de coronavírus {infográfico].** Disponível em: https://pt.venngage.com/blog/coronavirus-impacto-ambiental/.

[66] Zambrano-Monserrate, M.A., Ruano, M.A., Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. **Science of The Total Environment** 728, 138813. https://doi.org/10.1016/j.scitotenv.2020.138813

enabling a better quality of life for people suffering from respiratory diseases[67] and allowing visualization of landscapes “disappeared” for years[68].

Seeking to correlate the effects of the pandemic on air quality, Bao and Zhang mapped the atmosphere of 44 Chinese cities before and after the confinement caused by the advance of Covid-19 and the results found were frightening: the amount of Nitrogen Dioxide, also known as Nitrogen Dioxide, has slowed down to the point of clearing up NASA satellite images[69]:



Imagens de satélite mostraram declínio nos níveis de poluição sobre a China - NASA Earth Observatory images by Joshua Stevens

[67] Evangelina Vormittag, MD, doctor and Ph.D. in pathology from the University of São Paulo (USP), states that: “The benefit of less polluted air is immediate for the population's health, not only for those with respiratory diseases, but also for cardiovascular diseases, especially when it comes to more sensitive groups such as children and the elderly". MAIA, Caroline Marques; BORRMANN, Luciane; ALVES, Vinícius Nunes. **Isolamento social muda a dinâmica do meio ambiente durante a pandemia.** Available on: https://www.blogs.unicamp.br/covid-19/isolamento-social-muda-a-dinamica-do-meio-ambiente-durante-a-pandemia/.

[68] “For the first time in nearly 80 years, Dhauladhar Mountain, which is part of the Himalayas, could be seen again in India. This phenomenon occurred due to the drop in air pollution due to the decrease in production at the factories and the reduced traffic in quarantine”. MAIA, Caroline Marques; BORRMANN, Luciane; ALVES, Vinícius Nunes. **Isolamento social muda a dinâmica do meio ambiente durante a pandemia.** Available on: https://www.blogs.unicamp.br/covid-19/isolamento-social-muda-a-dinamica-do-meio-ambiente-durante-a-pandemia/.

[69] BAO, R.; ZHANG, A. Does lockdown reduce air pollution? Evidence from 44 cities in northern China. **Science of The Total Environment** 731, 2020. https://doi.org/10.1016/j.scitotenv.2020.139052.

As we can see, the red dot that was intense from January to February 2019, the beginning of the still epidemic, of the new Coronavirus in the Chinese air was being transformed into a whitish blue color, demonstrating a significant reduction in nitrogen dioxide, increasing the respiratory quality of life of the inhabitants of that place.

Another impact variable during the pandemic is water, an essential component for life on Earth. The biggest example of the water impact is the canals of Venice that were made clearer during the Italian lockdown. With a decrease in tourism and social movement, water transparency has improved, which could be the beginning of a water improvement[70].

Quantifying the transparency of water, by itself, and its quality, considered unsuitable for consumption is premature. However, it allows for a greater incidence of sunlight, allowing greater photosynthesis by algae and, consequently, a greater chance of recovery of water quality[71].

With the two studies mentioned above, which used two quality of life variables: air and water, essential elements for life on the planet, we can infer that the Covid-19 pandemic had a positive impact on atmospheric and water health as a whole. The confinement of people linked to biosafety recommendations to contain the transmission of the virus contributed favorably to the achievement of SDG 14.

Finally, the Sustainable Development Goal 15 named Life on Land: protecting, restoring, and promoting the sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, halting, and reversing land degradation and halting loss is the SDG that has a close correlation with the Covid-19 pandemic, a zoonotic disease, as said before.

As already seen, androgenic interference in the environment is the main cause for the emergence of the zoonotic pathologies, which makes it necessary to confront an environmental policy based on sustainability. But what does sustainability mean? To answer this question, this article will use, as a theoretical reference, the scientist Klaus Bosselmann. In describing sustainability, the author makes a correlation between sustainability and the idea of justice, emphasizing that it is a simple and complex activity, concomitantly:

> In its most elementary form, sustainability reflects pure necessity. The air we breathe, the water we drink, the soils that provide our food are essential for our survival. The basic

[70] Braga, F., Scarpa, G.M., Brando, V.E., Manfè, G., Zaggia, L. (2020). COVID-19 lockdown measures reveal human impact on water transparency in the Venice Lagoon. **Science of The Total Environment** 736, 139612. https://doi.org/10.1016/j.scitotenv.2020.139612.

[71] BRAGA, F., SCARPA, G.M., BRANDO, V.E., MANFÈ, G., ZAGGIA, L. (2020). COVID-19 lockdown measures reveal human impact on water transparency in the Venice Lagoon. **Science of The Total Environment** 736, 139612. https://doi.org/10.1016/j.scitotenv.2020.139612.

> rule of human existence is to maintain the sustainability of the living conditions on which it depends. To that end, the idea of sustainability is simple.
>
> But sustainability is also complex, again, as is justice. [...] We can imagine a sustainable society, but probably not how to achieve it. On the other hand, a "just society" reflects an ideal that will possibly never be fully achieved. Ideals such as justice, peace, and sustainability are fundamental to any society. Without them, the ideal of a just society cannot be achieved[72].

In this sense, talking about sustainability is not conceptualizing something capable of reflecting a single point, but understanding that the exercise of sustainability is a principle that can change a generational relationship and guaranteeing a better quality of life for future generations. Within this perspective, Klaus Bosselman quotes Brundtland as saying that the definition of sustainability must provide a direction, must demand a different behavior so that current social action cannot compromise "the ability of future generations to satisfy their own needs"[73].

Thus, the emergence of new global and transnational scenarios, based on the new environment and its consequences[74], bringing sustainability as the central axis requires a new vision of confronting the Covid-19 pandemic. Sustainability is, therefore, a new paradigm of post-modern society, with substantial transformation in the economic, social, and environmental sector[75].

The humanitarian crisis of the Coronavirus, a biological disaster, with economic, health, and political repercussions, a situation that resembles what Edgar Morin describes as a gigantic planetary crisis: the crisis of humanity that cannot achieve the state of humanity. The same author emphasizes that "when a system is unable to deal with its vital problems, it either degrades, disintegrates, or reveals itself capable of raising a metasystem capable of dealing with its problems: it metamorphoses itself"[76].

About this planetary metaformosis, Ulrich Beck explains that:

> Metamorphosis implies a much more radical transformation, whereby the old certainties of modern society fade away while something completely new emerges. To understand this metamorphosis of the world, it is necessary to explore new beginnings, starting from

[72] BOSSELMAN, Klaus. **O princípio da sustentabilidade: transformando direito e governança**. Translation Philip Gil França. São Paulo: Editora Revista dos Tribunais, 2015.

[73] BRUNDTLAND, *apud* BOSSELMAN, Klaus. **O princípio da sustentabilidade: transformando direito e governança.** Tradução Philip Gil França. São Paulo: Editora Revista dos Tribunais, 2015.

[74] FREITAS, JUAREZ**. Sustentabilidade, Direito ao Futuro**. Belo Horizonte, Fórum, 2012.

[75] CRUZ, PAULO MÁRCIO. BODNAR, Z. O novo paradigma de Direito na pós-modernidade - Porto Alegre - RECHTD/UNISINOS. RECHTD**. Revista de Estudos Constitucionais, Hermenêutica e Teoria do Direito**, v. 3, p. 75-83, 2011

[76] MORIN, Edgar. **A via para o futuro da humanidade**. Translation: Edgard de Assis Carvalho, Mariza Perassi Bosco. 2. ed. Rio de Janeiro: Bertrand Brasil, 2015.

> the old and trying to understand the future norms and structures that characterize the confusion of the present[77]. (author's translation)

This transformation is in line with what Enrique Leff describes about the State of Environmental Law, also called the Sustainable State, which is the need to build a new environmental rationality based on the sustainable guideline[78], which, interpreted in accordance with Slavoj Zizek, is nothing more than the that the need to develop alternatives based on good being and responsibility, making it essential to take a step back to project a future with new economic, democratic, and political paths[79].

Therefore, it is perfectly possible to conclude that the reconstruction of the globalized world after the Covid-19 pandemic must be based on what Klaus Bosselman says about governance for sustainability. In other words, "governance can no longer be limited to purely social relationships. We also need to reflect on our ecological relationships. The traditional focus on governance is the human community"[80].

Thus, the action and involvement of the human species must have a new focus: the preservation of all species of life and crucial elements for its maintenance on the planet. Returning the natural habitat to all beings on planet Earth must be the main objective for the construction of a sustainable system, to prevent new endemics or pandemics putting human life at risk.

4. FINAL CONSIDERATIONS

The Covid-19 pandemic, first reported in China, won numerous discussions about its origin, with its major current described the genesis of the pathology as a zoonotic disease, as the first cases occurred in people who attended the same place: Wuhan South China Seafood Wholesale Market.

Considered as a respiratory and cardiovascular pathology, the Coronavirus pandemic became the main spectacle in the global world, as government entities needed to study a way to face the worst health crisis of the 21st century. However, although there was a

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[77] La metamorfosis implica una transformación mucho más radical, mediante la cual las viejas certezas de la sociedad moderna se desvanecen mientras surge algo completamente nuevo. Para comprender esta metamorfosis del mundo hay que explorar los nuevos comienzos, centrándose en lo que surge de lo viejo e intentando comprender las futuras normas y estructuras que caracterizan la confusión del presente. (BECK, Ulrich. **La metamorfosis del mundo.** Traducción de Fernando Borrajo Castanelo. Barcelona: Paidós, 2017.)

[78] LEFF, Enrique. Sustentabilidad y racionalidad ambiental: hacia 'otro' programa de sociología ambiental. Revista mexicana de sociología, vol. 73, n. 1, 2011.

[79] ZIZEK, Slavoj. **In defense of lost causes.** London, New York: Verso, 2008.

[80] BOSSELMAN, Klaus. **O princípio da sustentabilidade: transformando direito e governança**. Translation: Philip Gil França. São Paulo: Revista dos Tribunais, 2015.

need for a study to contain the advance of the pandemic, as it was capable of shaking social structures, it showed essential to inquiry the human action in the natural habitat of animals as a precursor of new zoonotic diseases.

Given this context, this investigation correlated the Covid-19 pandemic with a biological disaster, as the zoonotic disease was responsible for the systemic social destabilization globally. In other words, it was catastrophically affected every country on the globe, it caused millions of casualties (more than 4 millions), significantly affected the economy worldwide.

It showed exactly the construction of a biological disaster, as it fitted all the requirements of this classification: the cause of the pandemic remained evident as a consequence of human's role in the natural cycle of the environment. The consequence of the pandemic was of great proportion and impacts several social branches. In addition to the death of countless people, Covid-19's pathology generated an economic and political crisis, which mobilized different sectors for risk analysis.

Furthermore, the Coronavirus pandemic united humanitarian efforts, involved not only the States, but also international organizations and the citizens themselves, in search of sanitary measures that were capable of controlling the progress of the pathology. That required the dialogue of various sciences for the construction of sanitary decrees (many of them restricting individual and collective freedom) and biosafety protocols, in total harmony with the confrontation of disaster crises and the model adopted by Daniel Farber in the Circle of Disasters. The diagnosis, prognosis, and the crisis intervention had to be engineered to build a new scenario, based on sustainability and sustainable governance, a subject that was already debated and was the stage for the development of the 2030 Agenda.

The first impact demonstrated in this work is closely related to SDG 1, which aims to eradicate poverty. Due to the numerous biosafety protocols and decrees restricting social interaction issued to contain the spread of the Covid-19 disease, many sectors of the economy were heavily impacted (tourism, leisure, events, etc.), which culminated in the high degree of unemployment and, directly, increased poverty. The study predicted an increase of 3% of people who lived below the poverty line, in which reached the mark of 32% of the world population. That was more than 32 million people in this condition, which negatively impacted the SDG 1 of 2030 Agenda.

It was also discussed the SDG 14, related to life in water. However, studying the impacts of water without analyzing the atmosphere demonstrates amateurism in the environmental field. Thus, the impact of the Covid-19 pandemic on the quality of life of air and water remained evident. Once again, due to the decrees restricting the movement of people of any kind, the emission of greenhouse gases, especially nitrogen dioxide decreased,

impacting positively the quality of the atmosphere and, consequently, the quality of life of people living with respiratory diseases, such as asthma, for example.

Besides, it was demonstrated, within this SDG, that the reduction in the circulation of people cleared the waters of the canals of Venice, enabled a greater incidence of sunlight, an essential component that recovered of the quality of aquatic life. Although there were no studies to state that the waters of the Venice canal, classified as unfitted for use, were in conditions for use by the human species, it already demonstrated that the reduction of the flow of people or their conscious exploration revitalized an already contaminated site.

Finally, it has been analyzed the SDG 15, related to terrestrial life, that was, about the need to adopt sustainable measures for protection, recovery, and promotion of terrestrial ecosystems. Therefore, analyzing the Covid-19 pandemic as a biological disaster made recovery protocols from this crisis be carried out with a focus on the sustainable development, a new paradigm of the post-modern society capable of substantially transforming the economic, social, and environmental sectors.

Given this, it was therefore concluded that the reconstruction of the globalized world after the Covid-19 pandemic might be based on what Klaus Bosselman claimed to be governance for sustainability. Thus, the performance and involvement of the human species in the environment might have been guided by the preservation of all forms of life, culminating in respect for the natural habitats of each living being.

At long last, it was proven that there was no confrontation or containment policy for the emergence of new epidemics or pandemics if there is no substantial change in the human-nature relationship. Thus, to maintain life on the planet, it is essential to implement the 2030 Agenda as planned.

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HOW TO CITE

LONCHIATI, Fabrizia Angélica Bonatto; BRASIL, Deilton Ribeiro. The covid-19 biological disaster and the impacts on the achievement of the sustainable development goals (sdgs) no. 1, 14, and 15 of the 2030 agenda. **Novos Estudos Jurídicos**, Itajaí (SC), v. 29, n. 2, p. 482-513, 2024. DOI: 10.14210/nej.v29n2.p.482-513.

Recebido em: 24 de ago. de 2021
Aprovado em: 24 de mai. de 2024