




## Waste pickers and public policies to face the Covid-19 pandemic

 **Fernanda Henrique Cupertino Alcântara**<sup>1</sup>  **Rosana Ribeiro Felisberto**<sup>2</sup> and  
 **Emerson Affonso da Costa Moura**<sup>3</sup>

<sup>1</sup>Doctorate in Sociology. Federal University of Juiz de Fora, Governador Valadares Campus – UFJF-GV. Governador Valadares, Minas Gerais – Brazil. [fernanda.alcantara@ufjf.br](mailto:fernanda.alcantara@ufjf.br)

<sup>2</sup>Doctorate in Law. University of the State of Minas Gerais – UEMG. Belo Horizonte, Minas Gerais – Brazil. [roribeirof@yahoo.com.br](mailto:roribeirof@yahoo.com.br)

<sup>3</sup>Doctorate in Law. State University of Rio de Janeiro (UERJ). Rio de Janeiro, RJ, Brazil.  
[emersonacmoura@unirio.br](mailto:emersonacmoura@unirio.br)

*Cite as - American Psychological Association (APA)*

Alcântara, F. H. C., Felisberto, R; R., & Moura, E. A. C. (2023). Waste pickers and public policies to face the Covid-19 pandemic. *J. Environ. Manag. & Sust.*, 12(1), 1-31, e25131.  
<https://doi.org/10.5585/2023.25131>

### Abstract

This work is the result of research associated with university extension, with part of the solidarity economic enterprises (EES) of recycling, in the State of Minas Gerais, served by the Ambiente-se Extension Program, of UFJF-GV, existing since the year 2017. In total, 11 solidarity economic enterprises (EES) are monitored, in 9 municipalities. **Objective:** Historicize how the phenomenon of the SARS-Cov-2 coronavirus pandemic, which caused the Covid-19 pandemic, was experienced by waste pickers organized in associations and recycling cooperatives, considering both the organization internal to the enterprise, on the one hand, as well as the relationship with state institutions and civil society, on the other.





**Methodology:** It was based on documentary and bibliographical research, in addition to the analysis of secondary data produced by governmental or private institutions operating in the recycling and reverse logistics sector. **Originality/Relevance:** Proposes an original approach when evaluating how public solid waste management policies, as opposed to actions or inactions during the pandemic period, affected the recycling production chain. **Results:** The work discusses the impact and responses produced to combat the health emergency. At the end, it discusses the relationship between the production chain and the activity of waste pickers, highlighting how the model that depends heavily on these workers has brought perverse results by not investing in and not valuing work at the basis of the production process. **Theoretical/methodological contributions:** The work contributes to the discussion about the Solidarity Economy and Public Administration in the management of post-consumer solid waste. **Social/management contributions:** Contributes to the maturation of knowledge about how institutional relationships are processed in this field and for organized civil society.

*Key words:* Covid-19, essential public service, waste pickers, public policy

## Catadoras(es) de material reciclável e políticas públicas de enfrentamento à pandemia de Covid-19

### Resumo

Este trabalho é o resultado da pesquisa associada à extensão universitária, com parte dos empreendimentos econômicos solidários (EES) de reciclagem, no Estado de Minas Gerais, atendidos pelo Programa de Extensão Ambiente-se, da UFJF-GV, existente desde o ano de 2017. Ao todo são acompanhados 11 empreendimentos econômicos solidários (EES), em 09 municípios. **Objetivo:** Historicizar como o fenômeno da pandemia de coronavírus SARS-Cov-2, que ocasionou a pandemia de Covid-19, foi vivenciado pelas(os) catadoras(es) organizadas(os) em associações e cooperativas de reciclagem, considerando tanto a organização interna no empreendimento, de um lado, quanto a relação com as instituições estatais e da sociedade civil, de outro. **Metodologia:** Baseou-se na *pesquisa documental e*





*bibliográfica*, além da análise de dados secundários produzidos por instituições governamentais ou privadas que atuam no setor da reciclagem e da logística reversa.

**Originalidade/Relevância:** Propõe um recorte original ao avaliar como as políticas públicas de gerenciamento de resíduos sólidos, contrapostas às ações ou inações no período pandêmico, afetaram a cadeia produtiva da reciclagem. **Resultados:** O trabalho discute o impacto e as respostas produzidas para combater a emergência sanitária. Ao final, discute a relação entre a cadeia produtiva e a atividade das(os) catadoras(es), ressaltando como o modelo que depende sobremaneira dessas(es) trabalhadoras(es), trouxe resultados perversos ao não investir no e não valorizar o trabalho na base do processo produtivo.

**Contribuições teóricas/metodológicas:** O trabalho contribui para a discussão acerca da Economia Solidária e da Administração Pública na gestão de resíduos sólidos pós-consumo.

**Contribuições sociais/para a gestão:** Contribui para o amadurecimento do conhecimento acerca de como as relações institucionais se processam nesse campo e para a sociedade civil organizada.

*Palavras-chave:* Covid-19, serviço público essencial, catadoras, catadores, política pública

### **Recicladores y políticas públicas para combatir la pandemia de Covid-19**

#### **Resumen**

Este trabajo es el resultado de una investigación asociada a la extensión universitaria, con parte de las Empresas Económicas Solidarias (EES) de reciclaje, en el Estado de Minas Gerais, atendidas por el Programa de Extensión Ambiente-se, de la UFJF-GV, existente desde el año 2017. En total se monitorean 11 Empresas Económicas Solidarias (EES), en 9 municipios. **Objetivo:** Historizar cómo fue vivido el fenómeno de la pandemia del coronavirus SARS-Cov-2, causante de la pandemia de Covid-19, por parte de los recicladores organizados en asociaciones y cooperativas de reciclaje, considerando tanto la organización interna de la empresa, por un lado, así como la relación con las instituciones del Estado y la sociedad civil, por el otro. **Metodología:** Se basó en una investigación documental y bibliográfica, además del análisis de datos secundarios producidos por



instituciones gubernamentales o privadas que operan en el sector de reciclaje y logística inversa. **Originalidad/Relevancia:** Propone un enfoque original al evaluar cómo las políticas públicas de gestión de residuos sólidos, a diferencia de las acciones o inacciones durante el período de pandemia, afectaron la cadena de producción de reciclaje. **Resultados:** El trabajo discute el impacto y las respuestas producidas para combatir la emergencia sanitaria. Al final, se analiza la relación entre la cadena productiva y la actividad de los recicladores, destacando cómo el modelo que depende en gran medida de estos trabajadores ha traído resultados perversos al no invertir y no valorar el trabajo en la base del proceso productivo. **Aportes teóricos/metodológicos:** El trabajo contribuye a la discusión sobre la Economía Solidaria y la Administración Pública en la gestión de residuos sólidos posconsumo. **Aportes sociales/de gestión:** Contribuye a la maduración del conocimiento sobre cómo se procesan las relaciones institucionales en este campo y para la sociedad civil organizada.

*Palabras clave:* Covid-19, servicio público esencial, recicladores, políticas públicas

## Introduction

This article resulted from the research with some solidarity economic enterprises (SEE), regarding the period of the SARS-Cov-2 coronavirus pandemic, facing the reality of contamination by contact or surface, the relationship with public agencies and with society in general. The methodology used was documentary and exploratory research. First, in the collection of the Ambiente-se Program of the Federal University of Juiz de Fora, Governador Valadares *Campus* (UFJF-GV), considering the history of meetings, services and information conveyed by public agencies and the SEE served. Second, on the official websites regarding state and federal regulations issued during the pandemic period. Finally, we carried out a bibliographical research on the topic studied considering data on the pandemic period, on one hand, and studies on the collection-sorting work structure, on the other.

To address the issue proposed here, we developed a brief introduction situating the drama experienced with the arrival of the Covid-19 pandemic, focusing on the information





available at the time about the ways of contagion and the relationship between contamination by fomites. Secondly, we discussed how waste contamination impacted the work structure of waste pickers in this interstice of 03 years. Finally, we explore the recycling production chain and its relationship with the collection-sorting activity carried out by independent collectors, those present in dumps or transshipment areas, and those organized in warehouses.

The reflection presented here was matured in the last year, considering the observed data and the contingency existing in each of the socio-environmental arrangements monitored. Throughout the pandemic period, the publication of these data would certainly have brought relevant considerations, however, we chose to analyze the events after the period of occurrence and according to two perspectives: globally, considering the reality of the SEE studied; highlighting the contingencies identified from the data collected. The article aims to be a contribution to the improvement of activities in the recycling production chain and government institutions that were called upon to react to a crisis condition, without, however, adequately knowing the field of recycling, which caused perverse effects that could have been prevented.

### **The Covid-19 Pandemic: history and forms of contamination**

The news about the emergency on the systemic respiratory disease, caused by SARS-Cov-2, reached international repercussions from January 2020, due to its high degree of transmission and high death rate, when compared to other infections. What, at first, was considered by some as just a local event, in the city of Wuhan, China, with the first identification on 11/17/2019, of a new type of pneumonia, quickly turned out to be a pandemic event, that is, with worldwide spread and transmission between people. Although, in most cases, sources indicate that the first case of Covid-19 in the world was officially identified only in December 2019, in the location mentioned above (Franco et al, 2020). The phenomenon evolved quickly and on 01/30/2020, the World Health Organization (WHO) declared a *Public Health Emergency of International Concern (PHEIC)*<sup>1</sup> or global coronavirus

---

<sup>1</sup> <https://www.paho.org/pt/news/30-1-2020-who-declares-public-health-emergency-novel-coronavirus>





emergency (Teixeira and Santos, 2023), due to the spread of the coronavirus SARS-CoV-2. According to the WHO Director General: “In total, there are now 7834 confirmed cases, including 7736 in China, representing almost 99% of all reported cases worldwide. 170 people have lost their lives to this outbreak, all of them in China.”<sup>2</sup>.

On 02/03/2020, the Ministry of Health (MS) published the Portaria 188, declaring the *Public Health Emergency of National Concern* (PHEIC), in compliance with the provisions of the Decreto Federal 7.616/2011, when was also established the *Centro de Operações de Emergências em Saúde Pública* (COE-nCoV), which remains under the responsibility of the *Secretaria de Vigilância em Saúde* (SVS/MS). On 02/06/2020, Lei Federal 13.979/2020 was published, which established measures to combat the PHEIC situation.

Subsequently, the *Plano de Contingência Nacional para Infecção Humana pelo novo Coronavírus (2019-nCoV)* was published as a strategy chosen to deal with contagion and human infection, in addition to the large appearance of new serious cases and an unprecedented number of deaths. Brazil confirmed its first case on February 26th and one death on March 17th, both in the State of São Paulo.

On 03/11/2020, WHO declared that the situation was *pandemic*. At that time, more than 118 thousand people, in 114 countries, had already been infected and there were more than 4.2 thousand deaths<sup>3</sup>. On 03/20/2020, Decreto Legislativo 06 was published in Brazil recognizing the *Estado de Calamidade Pública*.

But this was not enough, once, in June 2020, the country had more than 707,412 suspected cases and 37,134 confirmed cases<sup>4</sup>. This situation became even worse with the recognition of widespread underreporting and omission of information regarding the real situation. In this regard, it is worth remembering that there was a suspicion of exclusion of total data (relating to contamination, suspected cases, and deaths) by the federal government, and the discretionary option to disclose only data relating to the last 24 hours. In

<sup>2</sup> [https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihc-emergency-committee-on-novel-coronavirus-\(2019-ncov\)](https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihc-emergency-committee-on-novel-coronavirus-(2019-ncov))

<sup>3</sup> <https://www.paho.org/pt/covid19/historico-da-pandemia-covid-19>

<sup>4</sup> <http://www.conass.org.br/painelconasscovid19/>





this context, after analyzing this situation in summary cognition in the *Arguição de Descumprimento de Preceito Fundamental* (ADPF) 690, it was understood that it was an apparent violation of the publicity rule in Public Administration<sup>5</sup>.

During this period, the beginning of easing of physical distancing rules was observed, for example, although the numbers related to the pandemic continued to worsen (Silva et al, 2020).

As the pandemic constituted a new and unprecedented fact of such magnitude in the history of humanity, there were no strategic plans prepared for the occasion, but other models could have been appropriated as parameters (Freitas et al, 2020).

After strong popular and political pressure, the federal government implemented the distribution of *emergency aid* in the amount of R\$ 600 per month, established on 04/02/2020, by the Lei Federal 13982/2020 and modified on 05/14/2020, by the Lei Federal 13998/2020. In the case of *single mothers*, the prediction was to receive R\$ 1,200. The initial prediction for *emergency aid* was that 3 monthly installments would be paid. However, the Law itself, in its art. 6º, the possibility of the Executive Power to extend such benefit is foreseen. Therefore, 05 monthly installments were paid in the amounts of R\$ 600 or R\$ 1,200, from April to August 2020. The extension of the *emergency aid*, which was named *residual emergency aid*, was defined by the Medida Provisória 1000/2020, paying an additional 04 installments, from September to December 2020, with amounts corresponding to half of the amounts previously paid. The installments of *residual emergency aid* were ceased in January 2021, which caused a serious impact on the maintenance of families in situations of misery and poverty. Nevertheless, due to the new wave of Covid-19, the benefit was resumed in April 2021, with 08 total installments, whose values varied between R\$ 150 and R\$ 375. Add to this the fact that the resources destined for *emergency aid* were not only received by families in this situation of *social vulnerability* and were not restricted to those included in the federal government's Cadastro Único (CadÚnico). In fact, two issues that are not central

<sup>5</sup> <http://www.stf.jus.br/arquivo/cms/noticiaNoticiaStf/anexo/ADPF690cautelar.pdf>







here, but worth mentioning: the way in which registration was carried out to receive emergency aid, via digital systems; and the weakening of CadÚnico as a system capable of mapping the families most in need of immediate assistance.

On 01/17/2021, vaccination began in the State of São Paulo, with the CoronaVac vaccine, produced by the Butantan Institute, followed later by vaccination carried out by the federal government<sup>6</sup>, with the support of the Oswaldo Cruz Foundation (FIOCRUZ), making use of imports of the AstraZeneca vaccine and, subsequently, its inputs. Both authorized by the Agência Nacional da Vigilância Sanitária (ANVISA), for emergency use. With this, the *Plano Nacional de Operacionalização da vacinação contra a COVID-19* was implemented. Despite the rapid articulation and responses in record time from the scientific community, international and national vaccine regulatory bodies, in December 2021 the reality regarding the illness and number of deaths resulting from SARS-Cov-2, largely aggravated by denialism and refusing vaccines, has placed Brazil in a position of international pariah (Rocha et al, 2022).

The end of the *Covid-19 global emergency* classification was declared by WHO only on 05/05/2023, when the world would have reached the sad milestone of more than 07 million reported deaths. Yet, the estimate was that, in fact, there would have been 20 million deaths. However, these data were later reviewed, and according to the WHO Covid-19 portal the declared cumulative total of deaths in the world in the week of 08/30/2023 was 6,955,497, as some countries in America no longer informed their situation at the beginning of August that year<sup>7</sup>. Although health agencies and the WHO came to the understanding that the criteria for designating a *global emergency* were no longer satisfied from then on, concern about contagion and the number of fatalities continued to be publicized. Despite such a change in classification, a month earlier, on 03/28/2023, Brazil had already reached the sad milestone of 700,000 fatalities and in August it was already preparing to face new variants of SARS-Cov-2.

<sup>6</sup> <https://portal.fiocruz.br/noticia/vacinacao-contra-covid-19-no-brasil-completa-um-ano>

<sup>7</sup> <https://covid19.who.int/?mapFilter=deaths>







With Brazil having continental dimensions, the collapse of the health system in some regions of the country occurred at different times. Simultaneously, several administrative positions, in many cases quite contradictory, were implemented, including total disregard for the recommendations of research agencies and experts in the field of epidemiology. One of the clearest examples was the non-existence of a coordinated federal policy regarding the isolation or reopening of commercial, cultural, educational or other activities. Considering the Brazilian institutional political structure, the federal government was responsible for coordinating the federation, providing guidance to subnational governments (SNG) and proposing central planning. The 2020 municipal elections also weighed in on the decision to adopt or not adopt physical distancing public policies. Furthermore, the policies of the States of the Federation did not always coincide with those of the Municipalities, which generated a high political cost when the States were more flexible and permissive (Rocha et al, 2022a).

At the height of the crisis, in June 2020, practically all Brazilian States and Municipalities succumbed to pressure from the then president and his allies so that physical distancing measures were not implemented, despite the lives lost unnecessarily and establishing a false dichotomy between protection economy and health preservation. Due to the lack of national planning and coordination, the situation was judicialized under the terms of ADPF 672, in April 2020, and the understanding of the Brazilian Federal Supreme Court (STF) was that the management of the crisis should be shared between the Union, States and Municipalities, in the search for possible solutions in an attempt to minimize the damage resulting from this terrible health crisis that has affected all regions of the planet.

The relationship between Municipalities and States was a fundamental element throughout the crisis period, so it is important to understand which norm was stricter and how these instances related to each other: in conflict, in synergy, cooperatively or articulately. Medium-sized cities, in general, would have followed the posture of state and capital governments, with the declaration of *emergency situation* and the decree of *public calamity situation* in March. After this moment, there is no clarity regarding the position adopted, observing a pattern of relaxation of physical distancing measures, which in March 2020



reached the highest level of rigidity and in June of the same year reached a condition of flexibility (Rocha et al, 2022a). Although most of the Brazilian population is concentrated in municipalities with this characteristic, it is necessary to consider public institutions' behavior in small municipalities, which constitute the majority in Brazilian territory.

It turns out that without a central coordination, the municipalities were responsible for actions to fight the health crisis. The response to this was not coordinated, but rather decentralized, with a certain protagonism of municipal mayors and governors, in “esforços de coordenação” (Rocha et al, 2022a). As a result, the “desarranjo federativo” made it difficult to control the spread of SARS-Cov-2, at the same time as it strengthened the SNG (Teixeira & Santos, 2023).

Finally, in April 2021, the STF decided to forward to the Federal Senate a determination of measures for the installation of a Comissão Parlamentar de Inquérito (CPI) to investigate the actions of the federal government. The CPI began its work on 04/27/2021 and the delivery of the final report, with requests for legal action, took place on October 26<sup>th</sup> of the same year, concluding that the federal government acted irresponsibly and criminally in various actions<sup>8</sup>.

The handling of the pandemic crisis in Brazil was unsatisfactory and criticizable, especially if we compare the available data in relation to the performance of other countries, including those in Latin America itself. In addition to the “insucesso brasileiro no enfrentamento da pandemia”, along with the health crisis, we are also facing a serious institutional crisis. The federal government (2019-2022), represented by the president at the time Jair Messias Bolsonaro, played a negative role, as he repeatedly tried to delegitimize actions to fight Covid-19, insinuating or indicating the use of ineffective treatments, denying the severity of the pandemic and the institutional tensions engendered with the aim of confusing the population and stunning other institutional actors.

In this same context, we observed with perplexity the actions of the MS that followed.

---

<sup>8</sup> <https://legis.senado.leg.br/comissoes/comissao?codcol=2441>





Brazil accompanied the acceleration of contagion, the significant increase in the number of deaths and the collapse of health systems around the world without articulating via MS an adequate policy to combat the health crisis. The federal government promoted “uma estratégia institucional de propagação do vírus”, which was not just about a “personalidade autoritária” or “estilo de ação” of an individual who occupied the position of President of the Republic, or an “errática” performance, but an effective political project to dismantle the Sistema Único de Saúde (SUS) (Teixeira & Santos, 2023).

### **Waste contamination and structure of collection-sorting work**

The federal government and the SNGs were not only inefficient but also caused substantial damage to the public interest, both in relation to facing the health crisis itself and in the management and regulation of the effects on *essential public services*. In addition to its simple exclusion, in the restrictive and defining norms of physical distancing and stoppage of activities, it is very important that we reflect on the impact of a type of discretionary perception regarding what is or is not considered an *essential service* and the serious problem which results from the lack of parameters that clearly define how to characterize these activities. Even worse when the parameters are contrary to reality and the norms already established. This is what happened, for example, with the selective collection, sorting, classification, and storage of recyclable waste, which are essential services, but were not considered that way by rules that regulated activities during the pandemic period.

On 03/20/2020, the Decreto Federal 10.282 was published, which defined public services and essential activities.

Art. 3º [...]

§1º: “São serviços públicos e **atividades essenciais** aqueles indispensáveis ao atendimento das necessidades inadiáveis da comunidade, assim considerados aqueles que, se não atendidos, colocam em perigo a sobrevivência, a saúde ou a segurança da população, tais como:

[...]

IX - captação e tratamento de esgoto e lixo;



(our highlights)

On 04/28/2020, this normative provision was revoked by the Decreto Federal 10.329. The same normative instrument was revoked by the Decreto Federal 11.077/2022. Thus, if the federal government's concern previously stopped at the mention of “captação e tratamento de esgoto e lixo”, with the advancement of the pandemic condition, not even this public service was treated as essential, opening space for the false justification of incinerators that had already been inserted with the Portaria Interministerial 274/2019.

Long before that, the Decreto Federal 7.404/2010 established:

Art. 9o A coleta seletiva dar-se-á mediante a segregação prévia dos resíduos sólidos, conforme sua constituição ou composição.

§ 1o A implantação do sistema de coleta seletiva é **instrumento essencial** para se atingir a meta de disposição final ambientalmente adequada dos rejeitos, conforme disposto no art. 54 da Lei nº 12.305, de 2010.

(our highlights)

This rule was revoked by the Decreto Federal 10.936/2022, which began to define the issue without referring to selective collection as an “instrumento essencial”.

The Conselho Nacional do Ministério Público (CNMP), in the document *Diretrizes técnicas e jurídicas para a coleta seletiva e triagem de materiais recicláveis durante a pandemia de Covid-19*, expressed its opinion on the topic in these terms:

Assim, conforme sustentado por entidades e organizações que apresentaram manifestação sobre o assunto, mesmo considerando que a Constituição Federal tenha definido que os serviços de saneamento são de competência e de interesse local, a exclusão da menção expressa aos serviços de saneamento do Decreto Federal nº 10.329/2020 é **um desserviço às ações e políticas de combate ao novo coronavírus**, bem como traz um efeito negativo sobre entendimento da importância do saneamento para a saúde e o bem estar da população brasileira.

(our highlights)



Furthermore, the Lei Federal 11.445/2007, art. 2º, item III, includes among the ways of providing basic sanitation “limpeza urbana e o manejo de resíduos sólidos”. And the art. 50, §2º, defines basic sanitation services as *essential*. Likewise, the Decreto Federal 7.217/2010, which was not repealed by this new legislation and establishes the basic guidelines for basic sanitation.

In this time between the recognition and the end of the classification of the pandemic situation, there was also no unification of procedures in the relationship between Public Administration and the waste pickers, who carry out the sorting and classification of recyclable solid waste, in most municipalities Brazilians, organized or not in recycling SEE. This situation contributed to the worsening of the health and socioeconomic situation, leaving each municipality at the mercy of the Judiciary, Public Prosecutor's Office, and local Public Administration.

During the pandemic period, one of the major concerns of scientists and part of the population became physical contact between people, environments without natural ventilation, crowds, but also contact with the delivery of ready-made foods, packaging, and contaminated surfaces<sup>9</sup> (Franco et al, 2020). In this last aspect, fomites, the purchase of products and collection-sorting activities began to draw public attention.

It is true that the information available from the beginning to the end of the pandemic was poorly understood or poorly disseminated, in addition to the frequent occurrence of false news circulation. This phenomenon also affected the understanding of how transmission through waste occurred and what the real risks of contamination were. In the absence of data, widespread panic (clearly understandable) and the inadequate interpretation of the situation that was presented, the population adopted habits aimed at preserving their health that did not always maintain a scientific basis or with consequences that were too serious for related issues. This was probably the case with surface contamination in contact with waste.

<sup>9</sup> <https://www.paho.org/pt/news/30-1-2020-who-declares-public-health-emergency-novel-coronavirus> e <https://iris.paho.org/handle/10665.2/53212>





Although the amount of post-consumer packaging has increased, at the same time, we have seen an increase in incorrect discard and inappropriate disposal of waste of all kinds. Any type of waste generated began to be sent to dumps, landfills or even incinerators, aiming a suppose prevention of damage to human health, at least at some point during the pandemic period. It turns out that other alternatives were available and, whether due to interests involved or lack of knowledge, they were not discussed or acted upon. Furthermore, not even contamination by fomites was the main way of spreading the virus or contaminating individuals, which became known as “teatro da higiene”, despite more important mechanisms, such as increasing ventilation in environments (Alegretti, 2021).

When we look at the population’s behavior, it seems indicative that fear or even urgency guided the means and expected results. Firstly, because there was not sufficient, clear, or homogeneous communication regarding how surface contamination worked. This fact is quite illustrative of the situation, as surface contamination is defined by the type of material, which, in turn, will determine how long the virus remains in that waste. In the case of post-consumer waste, obviously, the indication of sanitizing objects for disinfection does not apply, drawing attention once again to the confusion between these procedures. Moreover, a simple solution to the situation would be the adoption of quarantine measures at the time of discard and collection of potentially recyclable material through selective collection systems, in places where they were already in operation. In few environments this information circulated clearly and effectively (Fiocruz, 2020; Alegretti, 2021).

In view of the above, it is important to explain how the collection-sorting works, so that we understand not only the models adopted across the country in relations with public bodies, but also the effects caused by the Covid-19 pandemic in this specific sector. The elements previously listed give an account of a very diverse and plural reality, without considering the nuances, contingencies, and regional disparities. In order not to neglect this plurality of practices and forms of organization of this productive activity, it is important to highlight some elements that, in a certain way, are common to the area, in a way that is somewhat faithful to the model that we will describe below.





In general terms, we can say that there are three common ways of developing the collection-sorting activity and here we also need to understand that these ways are associated with urban solid waste management models, even if they are not transparent or official. Likewise, the forms and models dialogue directly with the *socio-environmental arrangements* present in the territory (Alcântara & Felisberto, 2023).

The most common form of collection-sorting, widely found in Brazilian municipalities, with greater or lesser concentration, concerns the collection carried out by independent waste pickers, who are those who work alone or in pairs through the city streets, following random routes or established customs. These individuals use various types of instruments to carry out their daily tasks: bags, bicycles, metal carts, refrigerator casings, boxes, supermarket, or baby trolleys, among others. Notably, the types of instruments they use to carry out their collection-sorting route clearly express the time dedicated to the activity, whether it is sporadic or permanent, the frequency, the centrality of the income earned, and the level of professionalization achieved. These elements also serve to characterize those who carry out the activity discontinuously and sporadically, or to supplement their income. In general, the material collected during a day's work is sold to warehouses with which these individuals maintain a relationship of trust, receive a loan of carts, or choose based on the price paid for each type of material. This means that the income, although small, is constant and guaranteed by what was earned on the day, what was received as a donation by traders or collected on the sidewalks of the streets of each city.

The second type is configured through groups that work in a specific location and receive potentially recyclable material to be sorted. Generally, these groups are organized in associations and cooperatives of waste pickers, but there are also informal groups that work in an associated and continuous manner. Today, we have a lot of data available and systematized on some platforms regarding these associated groups, some of which are mentioned below. We also have established knowledge produced by research and extension projects with recycling SEE. These results point to both a general perspective (mapping, describing and comparing the most recurrent and common characteristics) and contingency





(covering many case studies). It is practically a stratum that has structural, institutional and organizational characteristics of SEE, which allows them to access PPs, petition public civil actions, receive public and private donations/transfers, in addition to enable them to sign contracts with Municipal Public Administrations.

The third and much more precarious type of collection is that found in landfills and transshipment areas. This is an activity carried out in completely inadequate, unsanitary conditions, with a higher level of risk to the health of workers, as well as the risk of death from accidents. However, the agenda for closing landfills cannot be adopted in isolation, ignoring the system as a whole and the leaky sieve through which the system allows thousands of tons of recyclables to pass through that were not intercepted by the individual waste pickers, nor by recycling associations and cooperatives. Although it constitutes an extremely inhumane work, in which people live directly with vultures and rats in the piles of wet waste deposited in transshipment and dumps, the environmental and economic value produced by these families in this aftermath activity is also undeniable.

In this work, we dedicated ourselves to analyzing only the second type, as only it, in theory, had the general conditions to carry out the two indicated quarantines: in homes and commercial enterprises, followed by another period in SEE yards or warehouses before being sorted. Furthermore, work is generally carried out in open structures or partial roofed and with high ceilings, which guarantees ventilation and supposedly low concentration of people.

### **Impacts of the Covid-19 pandemic on recycling SEE**

The political-administrative responses to the pandemic context were quite varied, without federal coordination and with constant judicialization of demands regarding the prevention of contagion and even to help victims or prevent the collapse of the health system. But this also occurred in what regards to the relationship between Municipal Public Administrations and recycling SEE.

This paper was based on the results of research associated to the university extension with part of the recycling SEE served by the Programa Ambiente-se, of the UFJF-





GV, since 2017. It were monitored 11 SEE in 09 different municipalities. The methodology used was based on *documentary and bibliographical research*, in addition to the analysis of secondary data produced by governmental or private institutions which operate in the recycling and reverse logistics sector. Based on the SEE observed in the research, we propose bringing together the positions identified into four large groups that will function here as *relativistic empathetic typologies* (Martineau, 2021; Alcântara, 2022). They are described below, according to the SEE that:

- 1) stopped their activities one or more times during the pandemic period;
- 2) maintained their activities, while their municipalities interrupted the selective collection and delivery of recyclable waste to their warehouses;
- 3) were prevented by public bodies from continuing their productive activities, because they did not consider it an *essential service* or because it did not fit the parameter used to control what types of work could be performed and which establishments could remain in operation;
- 4) municipalities that understood selective collection and recycling as *essential public services* and maintained their activities constantly during this period.

As for the first group, certain recycling SEE closed their doors at times during the pandemic period, due to the imposition of municipalities or the recognition of a lack of conditions to carry out their work, whether because of the concentration of people in high numbers, the presence of elderly people or people with comorbidities and diseases that increase the risk of Covid-19 contagion, with a tendency to evolve as the condition worsens. Arbitrarily, without consulting the SEE and public health experts, municipal administrator authoritatively determined the closure of the warehouses, despite the knowledge already established regarding the quarantine of materials received through selective collection. Huge financial losses were caused by attitudes of this nature to the detriment of the SEE. Add to this the fact that many municipalities took the opportunity to suspend and terminate service provision contracts with SEE, or even replace them with private outsourced companies.

Regarding the second group, the SEE remained open and active, but in municipalities



in which selective collection activities were suspended. It was the case of the ASCANAVI (*Associação dos Catadores de Materiais Recicláveis Natureza Viva*) and ASCARF (*Associação dos Catadores de Resíduos Sólidos Reciclando Hoje Por Um Futuro Melhor*), in Governador Valadares. But also from the ASMARC (*Associação de Seletores de Materiais Recicláveis de Caratinga*), in Caratinga, and from the UNICICLA (*Associação dos Catadores de Materiais Recicláveis de Nova União/MG*), in Nova União, all in the State of Minas Gerais. Thus, the volume of sorted materials fell abruptly, which impacted the income, both of families involved in the recycling production chain, and the income of the municipalities themselves, and increased environmental liabilities, to the extent that waste stopped being sorted and began to be buried or incinerated without any mass being recovered.

As for the third group, the recycling SEE were closed because their activities were not considered productive, due to imposition of municipalities or States, because they did not have registration in economic activities, the so-called “CNAEs” in reference to the typology of the Cadastro Nacional de Atividade Econômica (CNAE), and were, therefore, registered since their foundation only as an associative and representational activity. As a result, they were prevented from operating, as they were not registered in accordance with authorized activities. For example, through the *Programa Minas Consciente*, as was the case with ASCAJUF, since the municipality of Juiz de Fora joined this program (Rocha et al, 2022). Thus, for a “mera questão formal”, they were unable to continue their productive activities. It should be noted that this occurred despite the fact that the selective collection and processing of potentially recyclable waste are, obviously, *essential public services*, as is the *door-to-door collection* of wet waste, popularly known as “garbage”.

Regarding the fourth type, we can cite the example of the Cooperativa Aguapé (*Cooperativa de Coleta Seletiva, Reaproveitamento e Reciclagem do Lixo*), in Manhumirim, and of the ASCAT (*Associação de Catadores de Materiais Recicláveis de Pitangui*), in Pitangui, both in Minas Gerais.

It is worth noting that what characterizes the types outlined above does not affect the situation of contracting and payment for the environmental services provided. This was the





case, for example, of ASCANAVI, UNICICLA and Aguapé. The municipality of Nova União maintained the payment related to the contract during the period in which it ordered the stoppage of selective collection. As a result, the situation was clearly more precarious for the SEE that did not have a contract with the municipalities. A more accurate analysis requires the development of panel and organizational research with each of the cases mentioned, including to historicize their institutional development and serve as a subsidy for other research in the same territories, which does not fall within the scope of this article.

In global terms, according to the *Anuário da Reciclagem*<sup>10</sup>, in April 2020: only 02.94% of waste picker organizations maintained normal functioning; 38.24% had their activities suspended; and 58.82% were partially functioning (Instituto Pragma, 2021). If we compare these data with those related to the Ciclossoft Cempre<sup>11</sup> 2020 survey, whose data were collected between July and October of the same year, from 326 Brazilian municipalities, regarding the segregation of recyclable materials carried out by local administrations: for 51.53% there was no change; 36.50% recommended storing; 08.59% recommended mixing; 03.37% were unable to provide information.

From May 2020 onwards, the number of SEE of waste pickers that had normal or partial functioning increased, due to the subsistence needs of their members and to the adoption of measures to prevent Covid-19 contagion, such as the use of Personal Protective Equipment (PPE), quarantine of materials, division into work groups and others (Instituto Pragma, 2021). Of 431 organizations consulted, the Ciclossoft Cempre 2020 survey indicated the following security measures adopted by them: 70.77% use of specific PPEs; 68.21% isolated risk groups; 55.68% distancing at work; 50.81% cleaning of instruments; 03.71% temperature control; 10.21% no change. In Minas Gerais, the Ministério Público Estadual de Minas Gerais (MPMG) and the Ministério Público do Trabalho (MPT) instructed municipalities to provide the PPE to recycling SEE, based on a booklet published by ABES (*Associação Brasileira de Engenharia Sanitária e Ambiental*) (Recomendação Conjunta

<sup>10</sup> <https://www.pragma.eco.br/biblioteca-pragma>

<sup>11</sup> <https://cempre.org.br/wp-content/uploads/2023/04/Pesquisa-Ciclossoft-2020.pdf>





1/2020/MPT/MPMG).

If the responses of Brazilian States were varied, so were the impacts of the pandemic. During the pandemic period, the prices of recyclable materials fluctuated a lot, reaching very low prices at the beginning and high prices as of the end of 2020. This subsequent positive variation was partly due to the appreciation of the dollar, but also by the scarcity of recyclable material in the production chain, which paralyzed several sectors of the recycling industry, cause by a shortage of raw materials.

Furthermore, due to fear of surface contagion, as the pandemic progressed there was an increase in the consumption of packaging with some recyclable potential (plastic and cardboard), with a consequent decrease in reusable containers, contrary to what occurred with the appropriate disposal of waste, which was hit by a serious setback in a short period. The stoppage and reduction of activities in the recycling chain, especially during the first half of 2020, impacted the activities of waste pickers, on account of the suspension of activities and restriction of operation of SEE. On the other hand, the adoption of measures to restrict circulation, physical distancing and remote work boosted the increase in the volume of packaging and disposables produced by households. This increase, however, did not reflect a raise in the recycling and service activities of the waste pickers, not meaning a proportional increase in the volume of material recovered. As a direct consequence, selective collection rates plummeted throughout the Brazilian territory, which, in turn, affected the work in warehouses, causing a corresponding decrease in the volume of waste sorted, classified and recycled even in the municipalities where the activities were not stopped.

According to data relating to the *Manejo dos resíduos sólidos urbanos*, from the Ministério da Integração e do Desenvolvimento Regional (MDR)<sup>12</sup>, based on data from the SNIS (Sistema Nacional de Informações sobre Saneamento):

---

<sup>12</sup> <https://www.gov.br/mdr/pt-br/assuntos/saneamento/snis/painel/rs>



**Frame 01**

*Selective collection in relation to the total volume of urban solid waste (Prepared by the authors based on SNIS data)*

| Year | Population (millions) | Municipal solid waste (tons) | Municipalities with selective collection | Waste pickers involved | Potentially recyclable waste (tons) | Estimated recovery of recyclables (tons) | Collection-sorting Units |
|------|-----------------------|------------------------------|--|------------------------|-------------------------------------|--|--------------------------|
| 2019 | 210.1                 | 65.1 million                 | 38.7%                                    | 31.5 thousand          | 1.61 million                        | 1.04 million                             | 1,663                    |
| 2020 | 211.7                 | 66.6 million                 | 36.3%                                    | 35.9 thousand          | 1.90 million                        | 1.07 million                             | 1,325                    |
| 2021 | 213.3                 | 65.6 million                 | 32.0%                                    | 39.1 thousand          | 1.75 million                        | 1.12 million                             | 1,726                    |

As previously stated, another immediate consequence is that if the appropriate disposal of waste was not carried out, there was automatically an abrupt increase in the number of tons destined for landfilling or incineration, which greatly aggravated environmental liabilities in many territories. According to SNIS<sup>13</sup> data:

**Frame 02**

*Final disposal of waste (Prepared by the authors based on SNIS data)*

|      | Final disposal on the ground (tons) (100%) | Dumping (%) | Controlled landfill (%) | Sanitary landfill (%) | Dumping (units) | Controlled landfill (units) | Sanitary landfill (units) |
|------|--|-------------|-------------------------|-----------------------|-----------------|-----------------------------|---------------------------|
| 2019 | 63.8 million                               | 12.9        | 12.0                    | 75.1%                 | 1,114           | 580                         | 621                       |
| 2020 | 65.3 million                               | 14.6        | 11.6                    | 73.8%                 | 1,545           | 617                         | 652                       |
| 2021 | 64.1 million                               | 15.0        | 11.8                    | 73.3%                 | 1,572           | 595                         | 669                       |

Not by chance, there was a negative impact on the revenue of recycling SEE and waste pickers, generating instability, discontinuity in investments and even labor migration/turnover. This situation impacted the lack of qualified labor available in each SEE,

<sup>13</sup> <https://www.gov.br/mdr/pt-br/assuntos/saneamento/snis/painel/rs>



as the high entry turnover reduces production (as it requires time for qualification and adaptation) and production efficiency. Here we are not talking about job rotation within the EES(s), but about the continuous replacement of labor. Furthermore, there was a reduction in the workforce available internally, due to the existence of many elderly people involved in scavenging and people from risk groups. Initially, due to the high risk of contagion and death, many collectors maintained minimal physical isolation and stayed away from the warehouses. The lack or refusal to use PPE was also a major barrier to maintaining the work routine in recycling SEE. However, in itself, PPE are protection against accidents and create a barrier between waste and the workers who handle it, but during removal, for example, or even during handling, they can still generate contamination if there is contact and lack of hygiene with sterilization of the affected area of the body. Mainly when it comes to hands and face.

Considering the pandemic period, the average income of waste pickers linked to SEE, with contracts with the public authorities, in 2020, was around R\$ 1,200. The average income of waste pickers linked to SEE, without a contract with the public authorities, was around R\$ 940 (Instituto Pragma, 2021). ANCAT (*Associação Nacional dos Catadores*) carried out the “Campanha de Solidariedade aos Catadores” which raised more than R\$ 4,000,000.00 and benefited more than 9 thousand collectors throughout Brazil<sup>14</sup>. It is important to note that the data collected does not cover individual or occasional collectors, who are not linked to the SEE or who carry out activities sporadically, due to the need for immediate income for subsistence. Including because they are not linked to collective organizations.

### Final considerations

There is a perception that appears to be consensual that the SEE were quite resilient during the pandemic and achieved more job stability during this period of crisis, leaving it to be assessed what happened after the crisis. What seems surprising is actually part of the

---

<sup>14</sup> <https://ancat.org.br/campanha-de-solidariedade-beneficia-mais-de-9-mil-catadores-em-todo-o-brasil-durante-pandemia/>  
22 de 31





routine of collection: survival, uncertainty, risk. The waste pickers were faced with the health crisis as yet another obstacle among the many that they have faced throughout their personal careers and across generations of the same family. The work is already carried out in extremely precarious and unhealthy conditions, with real risks to health, so the pandemic event presented itself as something less threatening than for the rest of society, which was socialized in other conditions. On the other hand, the need for income to support their families and the threat of interrupting their activities due to the assessment that they would increase the spread of the virus with the circulation of recyclable materials, presented itself as a moment of rupture in institutional investment. accomplished.

In view of the helplessness and unpreparedness of public bodies, misinformation and the lack of decision-making based on the public interest and technically based contributed to aggravating the situation of illness, progression to more serious manifestations, precariousness of work (because they become unable to or not authorized to maintain their activities in some cases) and decreased income.

Municipal norms in the places where the Programa Ambiente-se operates constituted a non-generalizable horizon of analysis, as important examples, which certainly coincide with several other observed realities and can contribute to understanding how institutional political action was flawed, erratic, assertive or even silent regarding the serious health crisis faced and the solutions listed to resolve it. It would be interesting if we had available an index and patterns of behavior observed in the cases under study, but this would depend on space and data not available at the moment.

The pandemic did not open wounds, it highlighted them. The attribution of greater importance to contamination by fomites, even promoting distrust in the management of recyclable waste, despite ignoring the conditions that actually aggravated the contagion (close contact between people and unventilated environments, for example), not resolving or contributing to the resolving the health crisis and creating many other crises. The conflict between the mode of production of scientific knowledge and the lack of knowledge about this process, on the one hand, with the populist and denialist logic, on the other, left a confusing



balance that sometimes strengthened, sometimes weakened the performance of government institutions in all sectors.

Finally, having overcome this obstacle, the recycling SEE and their associated members wait for the State to implement the public solid waste management policy appropriately, complying with the powerful legislation already established and ensuring that the priority role of the collectors of recyclable material in the recycling production chain are recognized and institutionalized through the establishment of effective remuneration contracts for the essential environmental services they provide to Brazilian society.

### References

Alcântara, F.H.C. (2022). O nascimento da observação social sistemática com Harriet Martineau. *Teoria e Cultura*, 17(1).

<https://doi.org/10.34019/2318101X.2022.v17.35645>

Alcântara, F. H. C. & Felisberto, R. R. (2023) Arranjo Institucional Socioambiental para Política Pública de Resíduos Sólidos. *Revista de Direito da Administração Pública*. 1(3),158-183.

Alcântara, F. H. C. ., Felisberto, R. R. ., & Oliveira, T. S. F. . (2023). PRINCÍPIO DA ASSOCIAÇÃO, ARTESANIA DAS PRÁTICAS E SABER PODER: o caso ASMARC em Caratinga/MG. *Revista De Políticas Públicas*, 27(1), 467–485.

<https://doi.org/10.18764/2178-2865.v27n1.2023.27>

Alegretti, L. (2021, 13 de abril). *Covid: por que ventilar ambientes é mais importante do que limpar compras*. BBC News Brasil.

Aquino, T. I. S., & Mendonça, C. M. C. (2022). Políticas de vida e morte: a redução do valor dos corpos e o aumento das precariedades humanas no primeiro ano de pandemia.





*Teoria e Cultura*, 17(1), 63-74. <https://doi.org/10.34019/2318-101X.2022.v17.34549>

Associação Brasileira de Empresas de Limpeza Pública e Resíduos Especiais (2022).

*Panorama 2022*.

Associação Brasileira de Engenharia Sanitária (2020, março). *Recomendações para a gestão de resíduos em situação de pandemia por coronavírus (Covid-19)*.

Compromisso Empresarial para Reciclagem <https://cempre.org.br/>

Centro de Estudos de Direito Sanitário da Faculdade de Saúde Pública da Universidade de São Paulo. (2021). *A Linha do Tempo da Estratégia Federal de Disseminação da Covid-19*.

Conselho Nacional de Secretários de Saúde. *Casos e óbitos de covid-19*.

Conselho Nacional do Ministério Público (2020). *Diretrizes Técnicas e Jurídicas para a Coleta Seletiva e Triagem de Materiais Recicláveis durante a pandemia de Covid-19*.

Da Silva, A. P. M. (2022). Os jovens, os velhos e o vírus: reflexões sobre gerações e pandemia. *Teoria e Cultura*, 17(1), 37-49. <https://doi.org/10.34019/2318-101X.2022.v17.34544>

Decreto 7.217/2010. (2010). *Regulamenta a Lei que estabelece diretrizes nacionais para o saneamento básico*. Brasília, DF.

Decreto 7.404/2010. (2010). *Regulamenta a Lei que institui a Política Nacional de Resíduos Sólidos*. Brasília, DF.



Decreto 7.616/2011. (2011). *Dispõe sobre a declaração de Emergência em Saúde Pública de Importância Nacional*. Brasília, DF.

Decreto 10.212/2020. (2020). *Promulga o texto revisado do Regulamento Sanitário Internacional*. Brasília, DF.

Decreto 10.282/2020 (2020). *Regulamenta Lei para definir os serviços públicos e as atividades essenciais*. Brasília, DF.

Decreto 10.329/2020. (2020). *Altera o Decreto para definir os serviços públicos e as atividades essenciais*. Brasília, DF.

Decreto 10.936/2022. (2022). *Regulamenta a Lei que institui a Política Nacional de Resíduos Sólidos*. Brasília, DF.

Decreto 11.077/2022. (2022). *Declara a revogação de decretos normativos*. Brasília, DF.

Decreto Legislativo 6/2020 (2020). *Reconhece a ocorrência do estado de calamidade pública*. Brasília, DF.

Franco, B. D. G. de M., Landgraf, M., & Pinto, U. M.. (2020). Alimentos, Sars-CoV-2 e Covid-19: contato possível, transmissão improvável. *Estudos Avançados*, 34(100), 189–202. <https://doi.org/10.1590/s0103-4014.2020.34100.012>

Freitas, André Ricardo Ribas, Napimoga, Marcelo, & Donalizio, Maria Rita. (2020). Análise da gravidade da pandemia de Covid-19. *Epidemiologia e Serviços de Saúde*, 29(2), e2020119. Epub 31 de março de 2020. [https://dx.doi.org/10.5123/s1679-](https://dx.doi.org/10.5123/s1679-49742020000200008)

[49742020000200008](https://dx.doi.org/10.5123/s1679-49742020000200008)





FIOCRUZ - Fundação Oswaldo Cruz. (2020, junho 16). *Quanto tempo o coronavírus permanece ativo em diferentes superfícies?*

FIOCRUZ - Fundação Oswaldo Cruz. (2022, janeiro 21). *Vacinação contra a Covid-19 no Brasil completa um ano.*

Governo do Estado de Minas Gerais. (2020). *Deliberação do Comitê Extraordinário Covid-19 Nº 39, de 29 de Abril de 2020. "Aprova o Plano Minas Consciente"*. Belo Horizonte, MG.

Instituto Pragma. (2021). *Anuário da Reciclagem 2021*.

Instituto Pragma. (2022). *Anuário da Reciclagem 2022*.

Lei Federal 11.445, de 05 de janeiro de 2007. (2007). *Estabelece as diretrizes nacionais para o saneamento básico; cria o Comitê Interministerial de Saneamento Básico*. Brasília, DF.

Lei Federal 13.979/2020. (2020). *Dispõe sobre as medidas para enfrentamento da emergência de saúde pública*. Brasília, DF.

Lei Federal 13.982/2020. (2020). *Altera a Lei sobre parâmetros adicionais de caracterização da situação de vulnerabilidade social*. Brasília, DF.

Lei Federal 13.998/2020. (2020). *Promove mudanças no auxílio emergencial*. Brasília, DF.

Lei Federal 14.026/2020. (2020). *Atualiza o marco legal do saneamento básico*. Brasília, DF.



Lei Federal 14.260/2021. (2021). *Estabelece incentivos à indústria da reciclagem*. Brasília, DF.

Lei Estadual 8.772/2020. (2020). Autoriza o governo do Estado do Rio de Janeiro a prover renda mínima emergencial a empreendedores solidários, em casos de emergência ou calamidade, na forma que menciona. Rio de Janeiro, RJ.

Lei Estadual 23.631, de 02 de abril de 2020. (2020). Dispõe sobre a adoção de medidas para o enfrentamento do estado de calamidade pública decorrente da pandemia de Covid-19, causada por coronavírus. Belo Horizonte, MG.

Lima, F. P. A., Rutkowski, J. E., Silva, L. H., Nogueira, & M., Rocha, R. L. (coords.) (2022). Atlas Brasileiro da Reciclagem. Associação dos Catadores e Catadoras de Materiais Recicláveis - ANCAT.

Martineau, H. (2022) *Como observar: morais e costumes*. Governador Valadares: fernandahcalcantara.

Medida Provisória 1.000/2020. (2020). *Institui o auxílio emergencial residual para enfrentamento da emergência de saúde pública*. Brasília, DF.

Ministério da Integração e do Desenvolvimento Regional. *Manejo dos Resíduos Sólidos Urbanos*.

Ministério da Saúde. (2021). *Plano de Contingência Nacional para Infecção Humana pelo novo Coronavírus COVID-19 Centro de Operações de Emergências em Saúde Pública | COE COVID-19* Brasília, DF.



MPT/MPMG (2020). Recomendação Conjunta 01.

Moraes, R. F. (2020). Medidas legais de incentivo ao distanciamento social : comparação das políticas de governos estaduais e prefeituras das capitais no Brasil. *Boletim de Análise Político-Institucional*. Instituto de Pesquisa Econômica Aplicada. (22), 85-98.

Organização Pan-Americana da Saúde. (2020). *Histórico da pandemia de COVID-19*.

Organização Pan-Americana da Saúde. (2020, janeiro 30). *OMS declara emergência de saúde pública de importância internacional por surto de novo coronavírus*.

Organização Pan-Americana da Saúde. (2020, 11 de maio) *Recomendações para a limpeza e desinfecção em locais públicos: supermercados, mercados, lojas de bairro, bancos, transporte público e outros*.

Organização Pan-Americana da Saúde. (2020, 15 de maio) *Limpeza e desinfecção de superfícies do ambiente no contexto da COVID-19. Orientação provisória, 15 de maio de 2020*.

Paiva, R. (2021, novembro 17). *Primeiro caso de Covid-19 no mundo completa 2 anos*. Exame.

Portaria 188, de 3 de fevereiro de 2020 (2020). *Declara Emergência em Saúde Pública de importância Nacional (ESPIN) em decorrência da Infecção Humana pelo novo Coronavírus (2019-nCoV)*. Brasília, DF.

Portaria Interministerial 274, de 30 de abril de 2019. (2019). *Disciplina a recuperação energética dos resíduos sólidos urbanos referida no § 1º do art. 9º da Lei nº 12.305*,





de 2010 e no art. 37 do Decreto nº 7.404, de 2010. Brasília, DF.

Rocha, M. M. da., Almeida, P. E. G. de, Tenório, G. G., Artuzo, R. M., & Mendes, H. D. M. (2022a). As respostas dos governos municipais à Covid-19 no Brasil: a política de distanciamento social nas cidades médias nos primeiros meses da pandemia. *Teoria e Cultura*, 17(1), 118-135. <https://doi.org/10.34019/2318-101X.2022.v17.36768>

Rocha, M. M. da, Chaves, L. L., & Soares, L. B. (2022b) Olhar o sol e a morte: Contribuições das Ciências Sociais sobre a pandemia de Covid-19 no Brasil. *Teoria e Cultura*, 17(1), 8-10. <https://doi.org/10.34019/2318-101X.2022.v17.38025>

Senado Federal. (2021). *CPI da Pandemia*.

Sistema Nacional de Informação sobre Saneamento <https://www.gov.br/mdr/pt-br/assuntos/saneamento/snis>

Silva, L. L. S. da ., Lima, A. F. R., Polli, D. A., Razia, P. F. S., Pavão, L. F. A., Cavalcanti, M. A. F. de H., & Toscano, C. M.. (2020). Medidas de distanciamento social para o enfrentamento da COVID-19 no Brasil: caracterização e análise epidemiológica por estado. *Cadernos De Saúde Pública*, 36(9), e00185020. <https://doi.org/10.1590/0102-311X00185020>

Sistema Nacional de Informações sobre a Gestão de Resíduos Sólidos. <https://sinir.gov.br/>

Superior Tribunal Federal. (2020). *Medida Cautelar na Arguição de Descumprimento de Preceito Fundamental 690 Distrito Federal*.

Superior Tribunal Federal. (2020) Arguição de Descumprimento de Preceito Fundamental





672 Distrito Federal.

Teixeira, C. F., & Santos, J. S.. (2023). Análise estratégica da atuação do governo federal brasileiro na pandemia de COVID-19: 2020-2021. *Ciência & Saúde Coletiva*, 28(5), 1277–1286. <https://doi.org/10.1590/1413-81232023285.10502022>

Ventura, D. de F. L., & Reis, R. (2021). A linha do tempo da estratégia federal de disseminação da covid-19. *Direitos na pandemia: mapeamento e análise das normas jurídicas de resposta à Covid-19 no Brasil*, (10), 6-31.

Vivas, F. (2020, junho 08) *Coronavírus: Alexandre de Moraes manda governo retomar divulgação dos dados acumulados*. G1.

World Health Organization. (2020, janeiro 30). *WHO Director-General's statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV)*.

World Health Organization. *Coronavirus (Covid-19) Dashboard*.