

## RESPONSIBILITY OF BRAZILIAN MUNICIPALITIES IN THE MANAGEMENT OF URBAN SOLID WASTE

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**Abstract:** The intensification of urban solid waste (MSW) generation, combined with inadequate disposal and disposal practices, culminated in the compromise of society's quality of life and in the intensification of environmental problems. The Municipalities and the Federal District exercise the ownership of public sanitation services, and therefore, they are responsible for the adequate management of MSW. With the institution of the National Solid Waste Policy (PNRS) – Law 12,305/2010, this responsibility is no longer the exclusive competence of the Municipality and is now shared with all the actors involved in the generation process. Targets with deadlines are established in the legislation so that those responsible for the management of MSW promote the environmentally adequate final disposal of the tailings, under penalty of being penalized. Therefore, this article aims to present an updated overview of the generation and disposal of MSW in Brazilian municipalities, as well as to demonstrate the responsibility of Municipalities in the management of this waste. To this end, the methodology adopted consisted of reviewing the literature, legislation and related doctrine and research on specialized websites. The work showed that, after more than twelve years of the institution of the PNRS, a significant portion of Brazilian municipalities still do not have the Municipal Plan for Integrated Management of Solid Waste (PMGIRS) and there are still active dumps in their territories. Thus, there is a deficient and challenging situation regarding the proposition of effective means for the concrete implementation and materialization of the goals and programs recommended in the PNRS, in the sense of mitigating the negative socio-environmental impacts. Environmental damage resulting from inadequate management of MSW generates accountability for Municipalities that do not comply with the legislation

and there is a legal obligation to repair the degraded environment. It is also evident that accountability in environmental matters is triple – administrative, civil and criminal responsibilities, which can be imposed concurrently – expressly provided for in the 1988 Constitution of the Federative Republic of Brazil (article 225).

**Keywords:** Environmental damage, final disposition, Environmental responsibility, Environmental protection.

## INTRODUCTION

The Constitution of the Federative Republic of Brazil of 1988 (CRFB/1988) established rules for the division of legislative and executive powers to the federated entities and, still in accordance with the Magna Carta (articles 1 and 18), the Municipality is endowed with autonomy and, therefore, it constitutes an entity of the federation with clear attributions. This way, the Municipalities have, among other powers, attribution to watch over the preservation of the environment, specifically with regard to the implementation of guidelines for the effective reduction of environmental damage caused by the inadequate disposal of MSW. This is due, among others, to articles 23 and 30 of the CRFB/88, which, respectively, grant municipalities the power to protect the environment and combat pollution in any of its forms and to legislate on matters of local interest and supplement the federal and state legislation, where applicable, pursuant to items I and II, article 30. Thus, the mismanagement of MSW, which can result in environmental damage and public health, culminates in accountability of the Municipalities.

The main instrument responsible for regulating the management and handling of MSW refers to the National Solid Waste Policy (PNRS) – Law 12,305/2010, which was prepared in accordance with the National Environmental Policy (PNMA) – Law number

6,938/ 1981, with the National Environmental Education Policy (PNEA) – Law number 9,795/1999, with the Basic Sanitation Policy (PNSB) – Law number 11,445/2007 and with the Public Consortia Law – Law number 11,107/2005 (MELO, 2017). Thus, although there were already rules that addressed the subject in question until 2010, regulation in specific national legislation for this matter is incipient.

It is timely to clarify that Law number 12,305/2010 presents, in article 3, items XV and XVI, a clear differentiation between the terms “solid waste” and “tailings”. According to this standard, solid waste means:

material, substance, object or discarded good resulting from human activities in society, whose final destination is proceeded, proposes to proceed or is obliged to proceed, in solid or semi-solid states, as well as gases contained in containers and liquids whose particularities make it unfeasible their release into the public sewage system or water bodies, or require technically or economically unfeasible solutions in view of the best available technology (BRASIL, 2010).

These residues are differentiated according to their physical nature (dry or wet), their chemical composition (organic or inorganic) and their generating source (household, industrial, hospital, civil construction, among others). Furthermore, as of NBR 10.004:2004, waste is categorized according to its hazardousness, as follows: hazardous (Class I waste), non-hazardous and non-inert (Class II A waste) and non-hazardous and inert (Class II B) waste.

Tailings, on the other hand, are defined in article 3, item XV, of the PNRS as: “solid waste that, after all possibilities of treatment and recovery by available and economically viable technological processes, have no other possibility than the environmentally adequate final disposal” (BRAZIL, 2010).

Specifically, urban solid waste (MSW), its generation has been intensified over time, as a result of the development of production systems and the promotion of consumption, allied to the exponential growth of the population. This, in turn, together with inadequate practices of disposal and disposal, culminated in the compromise of society’s quality of life and in the intensification of environmental problems, such as contamination of soils and water resources, as well as the transmission of diseases due to the attraction of vectors in dumps, among others. In addition, the absence of effective public policies favors this scenario of environmental damage due to inadequate final destination of tailings.

Thus, the proper management of MSW is an essential public service, essential for the maintenance of environmental quality and public health. However, in 2021, almost half of Brazilian municipalities still had active dumps (about 47% of municipalities), according to a survey carried out by the Brazilian Association of Waste and Effluent Treatment Companies (ABETRE, 2021). Most of these tailings deposits are located in municipalities with small populations, which do not have their own financial resources to meet the requirements established in the PNRS. There are about 2,610 dumps in the country (ABETRE, 2021) and the deadline for ending this irregular disposal is determined in the legislation and staggered by the size of the municipalities. Certainly, many challenges must be overcome until the desired level is reached for the adequate management of MSW and the active and responsible participation of municipal entities plays an important role in this regularization process. It must be noted that the responsibility for management, which previously belonged only to the Municipality, with the publication of the PNRS started to be shared with all

the actors involved in the generation of this waste (life cycle), from manufacturing to final disposal. This norm also established that the other entities of the federation were part of the management process of the Municipalities through technical and financial support to make environmental projects viable, especially those that favor shared actions.

However, more than twelve years after the implementation of Law number 12,305/2010, as well as other regulations aimed at adapting the situation of MSW in the country, the problem of inadequate disposal of tailings still persists.

## **GOAL**

This article aims to present an updated overview of the generation and disposal of MSW in Brazilian municipalities, as well as to discuss the responsibility of Municipalities in the management of this waste.

## **METHODOLOGY**

This is an exploratory research, carried out through a review of the technical literature, specialized databases, legislation and related doctrine. In particular, the analysis of the norm that establishes the PNRS was carried out, aiming to provide an interface with environmental responsibility, with regard to the responsibility of the Public Power, mainly of the Municipalities, for non-compliance with their legal duty to promote the adequate disposal of MSW in the environment.

## **RESULTS AND DISCUSSION**

### **OVERVIEW OF MSW GENERATION AND DISPOSAL IN BRAZILIAN MUNICIPALITIE**

In 2020, Brazil generated about 82.5 million tons of Urban Solid Waste (MSW), which corresponded to approximately 390 kg/inhabitant.year or 225,965 tons daily. Thus, the per capita generation was, on average,

1.07 kilos of waste per day. The Southeast region of the country generated 49.7% of MSW (1.262 kg/inhab.day), the Northeast region 24.7% (0.971 kg/inhab.day), the South region 10.8% (0.805 kg/inhab.day), the Midwest region 7.5% (1.022 kg/inhabitant.day) and the North region 7.4% (0.898 kg/inhabitant.day) (ABRELPE, 2021, p.16-18). It is noteworthy that consumption occurred predominantly through the delivery system during the COVID-19 pandemic.

In 2020, around 76.1 million tons of MSW were collected in Brazil, which represents a coverage of 92.2% of the country's territory, with 20% of the waste generated in municipalities in the North and Northeast regions. are not sent for regular collection. Furthermore, the amount of MSW collected in Brazil, around 76,079,836 t/year, corresponded to 359.3 kg/inhabitant.year. As for the territorial distribution, the Southeast region of the country collected 40,249,087 t/year (98.2%), the South region 8,491,375 t/year (95.7%), the Midwest region 5,780,820 t/year (93.9%), the Northeast 16,575,614 t/year (81.5% %) and the North 4,982,940 t/year (81.4% %). Regarding selective collection, it is also mentioned that around 4,145 municipalities presented some initiative, especially those located in the South and Southeast regions, according to the Brazilian Association of Public Cleaning and Special Waste Companies (ABRELPE, 2021, p. 18-20).

Figures 1 and 2, they show respectively, the coverage index of MSW collection in Brazil and regions (%) and the amount of per capita MSW collection in Brazil and regions (kg/inhab.year) for 2020.

According to Article 10 of Decree 10,936/2022, which regulates Law number 12,305/2010, selective collection programs must prioritize the participation of cooperatives and/or associations of reusable and recyclable material collectors composed of

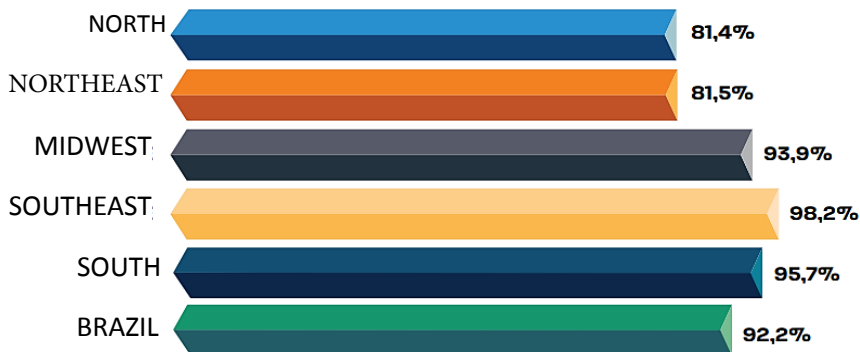


Figure 1: USW collection coverage index in Brazil and regions (%) for 2020.

Source: ABRELPE, 2021, p. 19.

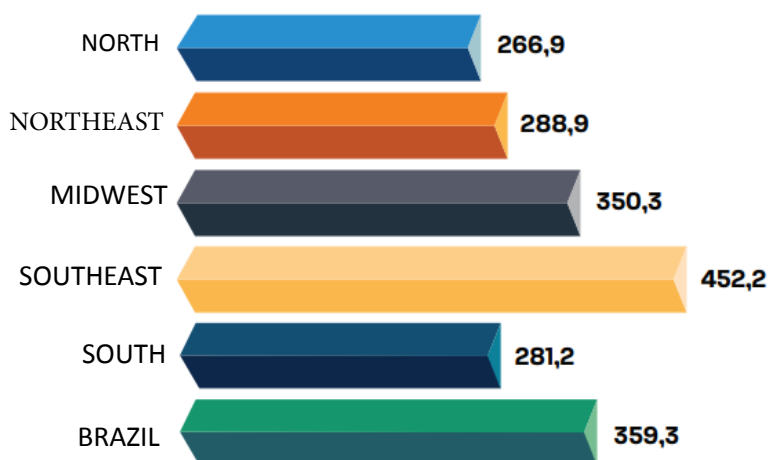


Figure 2: Per capita MSW collection in Brazil and regions (kg/inhab.year) for 2020.

Source: ABRELPE, 2021, p. 18.

Region	Adequate disposition		Inadequate disposition	
	t/year	%	t/year	%
North	1.773.927	35,6%	3.209.013	64,4%
Northeast	6.016.948	36,3%	10.558.666	63,7%
Midwest	2.456.849	42,5%	3.323.972	57,5%
Southeast	29.542.830	73,4%	10.706.257	26,6%
South	6.011.894	70,8%	2.479.482	29,2%
Brazil	45.802.448	60,2%	30.277.390	39,8%

Table 1: Final disposal of MSW in Brazil and regions, by type of destination (t/year and %).

Source: ABRELPE, 2021, p. 22.

low-income individuals. Accordingly, Article 40 establishes the Citizen Selective Collection Program, which aims at: (I) separating reusable and recyclable waste; and (II) the destination of reusable and recyclable waste, primarily to associations and cooperatives of recyclable material collectors by direct and indirect federal public administration bodies and entities (BRASIL, 2022).

With regard to the final disposal of MSW, around 46 million tons were sent to sanitary landfills, corresponding to 60% of the waste collected. However, approximately 40% of the total collected was sent to areas of inadequate disposal, such as dumps and controlled landfills. In this context, in the Southeast region, 73.4% of the municipalities have adequate disposal (862 municipalities), 70.8% (1,061 municipalities) in the South region, 42.5% (172 municipalities) in the Center-West region, 36.3% (511 municipalities) in the Northeast region and 35.6% (96 municipalities) in the North region (ABRELPE, 2021, p.21-23). Table 1 shows the amount of MSW destined adequately and inappropriately in Brazil in 2020.

Based on the most current data, it appears that there has been an increase in the generation of MSW in the country and there has been gradual progress in the management of this waste. This is reflected in investments in the sector. Approximately BRL 27.3 billion were invested in 2020 in the cost of various services (collection, transport, final disposal, sweeping, weeding, cleaning and cleaning of streams, maintenance of parks and gardens). This total represents R\$ 10.75 per inhabitant/month. In the same year, around 334 thousand jobs were created related to the urban cleaning and solid waste management sector, being: 143,146 in the Southeast region, 98,035 in the Northeast region, 40,896 in the South region, 27,915 in the Center-West region and 24,587 in the North region (ABRELPE, 2021, p.23-

24).

In order for the solid waste sector to advance in the municipalities and present positive results, it is recommended that Article 82 of Decree 10.936/2022 be considered, especially item V, which aims to “promote the training of public managers to act as multipliers in the various aspects of integrated solid waste management” (BRASIL, 2022).

## **ENVIRONMENTAL GUARDIANSHIP AND RESPONSIBILITY OF MUNICIPALITIES IN MSW MANAGEMENT**

It is known that the Brazilian legal system is composed of rules and guiding principles, of which the right to a balanced environment, the right to a healthy quality of life, equitable access to natural resources, user-pays and polluter-pays user, precaution, prevention, repair, information, participation, mandatory intervention by the Government, among others that can be extracted from the PNMA, the PNRS, the PNSB and also from the International Declarations of Principles, adopted by International Organizations, in particular the UN Declarations of Stockholm, 1972, on the Human Environment, and of Rio de Janeiro, 1992, on Environment and Development.

The protection of the “environment” legal interest follows a preservationist prism in order to meet the principle of intergenerational responsibility, that is, the duty of contemporary society towards future generations. It is necessary to consider, as presented by Saraiva Neto (2010, p. 44), in the legal concept of the environmental good, that:

the environment is seen as a good for the common use of the people, therefore, inappropriable, unavailable and indivisible. Therefore, it is of diffuse ownership and, as a macro asset, it is not part of the domain regarding public assets, nor private assets, but is classified as a good of public interest

Given this characterization of the environmental macro-good, of diffuse ownership and transgenerational importance, which must be understood in a systemic way and integrating all elements related to life, its complexity and relevance is clear (SARAIVA SOARES; SALVADOR, 2015).

The PNRS mainly aims to protect public health and environmental preservation, non-generation, reduction, reuse, recycling and treatment of solid waste, as well as environmentally adequate final disposal, integrated management and others (SARAIVA SOARES, SILVA, LOPES, 2019). However, as presented in the previous item, the panorama of MSW in Brazil shows that the generation of waste is increasing and that 40% of the total waste collected in the country is inadequately disposed of in the environment (dumps or controlled landfills), according to the latest survey by Abrelpe (2021). Thus, there are many scenarios of configuration of environmental damage resulting from this irregular disposition in the environment. Added to this fact is the precarious selective collection and, consequently, the greater exploitation of in natura reserves of environmental resources.

Environmental damage, in the legal sense, is related to facts that imply the alteration of a good destined to satisfy needs that, according to the law, are deserving of protection. That said, it follows that, as ratified by Silva (2006), “only those events considered relevant to the dominant ideology and ethics at a given historical and cultural moment will be relevant to the legal world”. Thus, the legal perception of damage will depend on the relevance that a particular legal system presents to a certain good. In this context, damage is only found when the injured property or right is legally protected (SARAIVA SOARES; SALVADOR, 2015).

In the case in question, where environmental

and public health damage is configured by the inadequate disposal of MSW, lato sensu damage is verified — they always overlap pure ecological damages and individual damages, since - in both cases - the adjacent diffuse interest, concerning the maintenance of environmental quality, will be harmed (STEIGLEDER, 2011). This is based on the fact that the constitutionally protected value is the quality of the environmental resource and public health that may be affected. The focus of this work is on environmental damage in the broad sense, which results from pure ecological damage, when noticing potential loss or reduction of environmental quality. In this sense, the so-called ricochet damage to the legitimate interests of a particular person is excluded, which represents particular damage to a subjective right and legitimizes the injured party to patrimonial or extra-patrimonial reparation (STEIGLEDER, 2011; SARAIVA SOARES; SALVADOR, 2015).

Thus, the study aims to emphasize the jurisdictional protection of the macro-environmental good and the liability arising from damage to diffuse interest and indirect reparation and not aiming to reimburse individual interests. In this area, the environmental macro-good has diffuse ownership and access to justice for environmental protection is not subject to statute of limitations. This reasoning is also evidenced by the fact that the loss of the right of action, through the courts, is not configured in fundamental disputes, which reflects the case in question (ALONSO, 2006).

It is noteworthy that the irregular and continuous disposal of MSW in the environment culminates in damages that increase over time, which are classified, according to Steigleder (2011), as permanent or ongoing. Furthermore, it is important to mention the synergistic effects associated with pollutants in the environment, where

the effect of the combination of substances is greater than the effects considered separately. Thus, the legal approach to prevention gains importance, precisely because of the complexity involved in environmental damage. Along these lines, the most appropriate stance, when it comes to environmental issues, is to avoid damage whenever possible. Therefore, the actions must be aimed not only at the a posteriori protection of the damage, but at the ante litem protection, which aims to protect the risk of damage.

Given the complexity and relevance of the environmental asset, as well as the possible repercussions on environmental and human health, the difficulty in recovering the injured asset and the fact that the effects of the damage caused are – often – irreversible, efforts must be made to stimulate the evidentiary question. Once these damages are evidenced, actions, via procedural systematics, must be carried out for accountability (SARAIVA SOARES; SALVADOR, 2015).

As Saraiva Soares and Salvador (2015) teach, in countries that structured their law in the Roman-Germanic culture, such as Brazil, the theory of adequate causality was adopted. Thus, it is not just any cause that will be considered as a causal link - the link between the action or omission performed by the agent causing damage and the aforementioned result -, but the direct and immediate cause capable of generating damage and the consequences arising from it, as stated in article 403 of the Brazilian Civil Code. This way, the causal link serves as a factor of imputation of the duty to indemnify. In this area, the possibility of attributing responsibility arises when the connection between commissive or omissive conduct and damage is shown to be viable.

In view of this, the Municipality is responsible for the damage caused - by action or omission - by its agents, and its inaction consists of a way of providing environmental

damage. It is noteworthy that this omission is not always culpable and may, as Séguin and Carrera (2001, p.95) mention, “be aimed at satisfying private interests, a product of corruption or the result of lobbying by powerful economic entities”. In line with this, Édis Milaré (1991, p. 35) mentions, when dealing with responsibility for environmental damage, that: “In fact, it is not only as a polluting agent that the Public Power is exposed to the control of the Judiciary, but also when it omits the constitutional duty to protect the environment”.

It is evident that this accountability in environmental matters is threefold, being expressly provided for in CRFB/1988 (article 225) administrative, civil and criminal responsibilities. This is justified by the fact that, with a single action, administrative, civil and criminal provisions can be injured. Thus, these responsibilities are relatively independent, and there may be absolution in the criminal and administrative transgression and the obligation to compensate for the damage caused remains. In this context, article 225, § 3, of the Brazilian Constitution provides that “conducts and activities considered harmful to the environment will subject violators, individuals or legal entities, to criminal and administrative sanctions, regardless of the obligation to repair the damage caused” (BRAZIL, 1988).

When determining this triple punishment, the constitutional text establishes that there are three spheres of environmental protection: criminal, administrative and civil and, therefore, there is no need to speak of “bis in idem” in this rule of cumulation of sanctions, since they protect different objects and are subject to different legal regimes.

In particular, civil liability, in environmental matters, has its own nuances, with the aim of guaranteeing the protection and defense of the environment, as explained by Matos



(2000). This responsibility is provided for in article 4, item VII, and article 14, § 1 of Law 9,638/81. In the meantime, civil liability is different in traditional law and civil liability in environmental law, the latter being objective of the integral risk type, so that the person responsible is responsible for the risk of his action or omission, without admitting exclusions.

When an environmental damage occurs and, consequently, a degradation to the environmental good, it is enough to identify the damage caused, its author and the causal link between the action and the injury to demand reparation. Regardless of whether the author of the damage was guiding his conduct within the environmental standards established by the environmental management bodies; whether, for example, there was an environmental license to operate or if it adopted mitigating measures beyond those recommended. Nothing must exclude their responsibility, as the risk of the activity leads to the imputation of the duty to repair the environment, as Matos (2000) teaches. For this author, not even a fortuitous case and force majeure can remove the duty to repair the environment. He exemplifies presenting the case of lightning striking an oil tank that explodes and pollutes a river. This natural event does not exempt the entrepreneur from the duty to repair, because the primary fact, according to him, is to own the activity and, thus, be responsible for the risk of the damage it can cause, an understanding in agreement with Milaré (2015).

Finally, Saraiva Soares, Silva and Lopes (2019) point out that, if the legislator admitted exclusions of civil liability in environmental matters, this would result in the exclusion of the authors and, finally, the environment would be totally degraded and without repair. In this context, it is noteworthy that article 14, § 1 of Law number 9.638/81 obliges the

polluter, regardless of fault, to indemnify or repair the damage caused to the environment and to third parties affected by his activity. The Public Prosecutor's Office of the Union and the States will have the legitimacy to propose civil and criminal liability actions for damages caused to the environment.

In the criminal field, the conduct of causing pollution through the release of waste, in disagreement with the requirements established in laws and regulations, at levels such that can result in damage to human health and cause animal deaths, is thus provided for in Law 9.605/ 98:

Article 54. Cause pollution of any nature at such levels as to result in or may result in harm to human health, or to cause the death of animals or significant destruction of flora: [...]

§ 2 If the crime:

V – it can occur by the release of solid, liquid or gaseous waste, or debris, oils or oily substances, in disagreement with the requirements established in laws or regulations:

Penalty - imprisonment, from one to five years (BRASIL, 1998).

Certainly, the Municipalities comprise the executive sphere in matters of local interest, so their performance is of notorious importance in the effectiveness of the PNSR. The main responsibility of Municipalities in MSW management is the preparation, implementation, monitoring and review of PMGIRS, as established in articles 18 and 19 of Law 12,305/2010. Municipalities, as long as the minimum content provided for in article 19 is respected, have the power to decide to organize themselves through inter-municipal consortia, with integrated planning of their activities and the elaboration of regional plans that organize the activities jointly.

The publication of the new legal framework for sanitation highlighted the importance

of public consortia for the regionalized provision of the MSW management service in the implementation of the PNRS. Article 50, VII of Law number 11,445/2007 (PNSB), establishes that the allocation of federal public resources and financing with resources from the Union or with resources managed or operated by agencies or entities of the Union, among other requirements, will be conditioned to the structuring of regionalized provision. Decree number 10,588 of December 2020, which regulates Law number 11,445/2007, established that Public Consortia for MSW Management are one of the forms of regionalized provision. Also, in line with this decree, Municipalities that did not have the services provided through regionalized solutions until March 31, 2022 will no longer be able to access Union resources (BRASIL, 2020a). As this period has recently expired, there is still no list of those municipalities that are effectively in this situation.

In relation to the PMGIRS and other legal requirements of the PNRS, the Municipalities need, according to the PNRS, to adapt to avoid being held responsible in relation to their management, since they have well-defined attributions to carry out:

- I – Diagnosis of the current situation of solid waste generated in the municipality, with origin, volume, characterization and forms of destination and final disposal practiced, identification of associated liabilities, including contaminated areas and their sanitation measures;
- II – Identification of areas that allow the final disposal of the tailings in an environmentally appropriate manner;
- III – Identification of waste and generators subject to the specific management plans required by article 20 of Law 12,305/2010;
- V – Rules for the transport and management of waste subject to the

specific management plans mentioned in the previous item and definition of responsibilities for the implementation, operation and management of the plans presented;

VI – Operational procedures and specifications adopted in urban cleaning and waste management services, including the proper final disposal of tailings;

VII – Technical training for the implementation and operationalization of PMGIRS;

VIII – Environmental education projects, programs and actions that promote the rationalization of consumption, reduction, reuse and recycling of solid waste;

IX – Implementation of selective collection programs and the organization of cooperatives or associations of workers with recyclable/reusable materials – pickers, prioritizing the participation of these workers in reverse logistics activities and shared responsibility for the life cycle of products. Encouraging the creation of sources of business, employment and income through the valorization of solid waste;

X – Targets for reduction, reuse, selective collection, recycling and reduction of tailings sent to sanitary landfills or other environmentally appropriate forms of disposal;

XI – means of control and inspection;

XII – implementation of sanitary landfills for the final disposal of tailings;

XIII – organization and maintenance of municipal information on solid waste management, which in partnership with the States and the Union will form the

National Information System on Solid Waste Management – SINIR;

XIV – establish systems for calculating the costs of public services for urban cleaning and solid waste management and forms of charging for services provided, including when the municipality assumes services legally assigned to other agents of shared responsibility – Law 11,445/2007.

It is also reinforced, in this context, that the elaboration of the respective PMGIRSs is a condition for the access of the Municipalities to the Union's resources for investments in the management of solid waste. Above all, it is emphasized that social participation in the process of building these plans is fundamental for the subsequent materialization of the programs, projects and actions presented in the document, so that the PMGIRS does not become a mere expenditure without functionality, i. e., just be archived. This agenda is also supported by Piterman (2008), when he argues that the absence of social involvement encourages the construction of diagnoses that are not coherent with the reality of each location.

As a result, the prognosis becomes deficient and even impracticable, whether due to technological, cultural, political, socioeconomic limitations, among others, or in the allocation of investments and the ranking of inappropriate actions. In addition, social participation during the construction of the PMGIRS can be recognized as a means of effective social control after the conclusion of the plan, in terms of monitoring its implementation in the municipality (PITERMAN, 2008).

Finally, it is worth mentioning that, in line with article 54 of the PNRS, the final environmentally adequate disposal of the tailings was scheduled to be implemented by December 31, 2020 - due to the wording given by Law n. 14.026/2020, Brazil (2020b)

-, except for the Municipalities that until that date had already prepared an intermunicipal solid waste plan or the PMGIRS and that had collection mechanisms that ensured their economic and financial sustainability, under the terms of article 29 of the Law number 11.445/2007, for which the following deadlines were defined:

I - Until August 2, 2021, for capitals of States and Municipalities that are part of the Metropolitan Region (RM) or Integrated Development Region (Ride) of capitals;

II - Until August 2, 2022, for Municipalities with a population of more than 100,000 (one hundred thousand) inhabitants in the 2010 Census, as well as for Municipalities whose urban area of the municipal seat is located less than 20 (twenty) kilometers from the border with neighboring countries;

III - until August 2, 2023, for Municipalities with a population between 50,000 (fifty thousand) and 100,000 (one hundred thousand) inhabitants in the 2010 Census; and

IV - Until August 2, 2024, for Municipalities with a population of less than 50,000 (fifty thousand) inhabitants in the 2010 Census.

§ 1 (VETOED).

§ 2 In cases where the disposal of tailings in sanitary landfills is economically unfeasible, other solutions may be adopted, observing technical and operational standards established by the competent body, in order to avoid damages or risks to public health and safety and to minimize the environmental impacts (BRAZIL, 2020).

## CONCLUSION

In view of the above, more than twelve years after the implementation of Law Number 12,305/2010, as well as other rules aimed at adapting the situation of MSW in Brazil, the problem of inadequate disposal of tailings persists. The environmental damage

caused by the inadequate management of MSW has the potential to generate liability with a duty to repair. This procedure is in accordance with the Magna Carta, which provides for the guarantee of an ecologically balanced environment, and with other

infra-constitutional norms. In addition, the Municipality's actions in a manner different from that provided for by law must be classified as an administrative infraction and may also give rise to the criminal liability of this entity of the federation.

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