

FORMAL, INFORMAL WORK AND LEGAL ORDINATIONS IN BRAZILIAN RECYCLING

CRUZ, Uilmer Rodrigues Xavier da¹
GARCIA, Ricardo Alexandrino²

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Abstract

In the contemporary world, it becomes more and more important to discuss the work relations that are decurrent of capitalism's ascension. The present article represents an effort in this sense, dwelling precisely in this theme. Two concepts coined by Marx and Engels are utilized here, which are the ones of *formal and informal work*, under the optics of work relations inside garbage collection and recycling, precisely inside Brazilian reality. These activities consist in a contradictory duty, because even though they possess great social and environmental values, the workers do not receive the same recognition, for their work is based on collecting other people's consumer waste. Having that thought, it is essential to consider the reasons that take capitalism to incentivize such marginalized activities. The hypothesis under which this article is built is that capitalism does it to maintain the eminence of a small portion of the society, while the other is overexploited.

Keywords: Formal work. Informal work. Legal ordinations. Recyclable materials collectors. Recycling.

TRABALHO FORMAL, INFORMAL E ORDENAMENTOS JURÍDICOS NA RECICLAGEM BRASILEIRA

Resumo

No mundo contemporâneo, torna-se cada vez mais importante discutir as relações de trabalho decorrentes da ascensão do capitalismo. O presente artigo representa um esforço nesse sentido, debruçando-se justamente sobre essa temática. Parte-se, aqui, de dois conceitos cunhados por Marx e Engels, os de *trabalho formal* e *trabalho informal*, sob a ótica das relações trabalhistas no contexto das atividades de catação e reciclagem, precisamente dentro da realidade brasileira. Tais atividades consistem em um ofício contraditório, pois, ainda que possuam um grande valor social e ambiental, seus operadores não recebem o devido reconhecimento, por seu trabalho se basear no recolhimento dos restos do consumo do Outro. Pensando nisso, é imprescindível refletir sobre os motivos que levam o capitalismo a incentivar atividades marginalizadas como essas. A hipótese sobre a qual este artigo se alicerça é a de que o capitalismo o faz para manter a superioridade de uma pequena parcela da sociedade, enquanto outra é alvo de superexploração.

Palavras-chave: Trabalho formal. Trabalho informal. Ordenamentos Jurídicos. Catadores de materiais recicláveis. Reciclagem.

TRABAJO FORMAL, INFORMAL Y ORDENACIONES FORMALES EN EL RECICLAJE BRASILEÑO

Resumen

¹ Doctoral student in the Graduate Program in Geography at the Federal University of Minas Gerais (UFMG), Campus Pampulha, Belo Horizonte. E-mail: uilmer@ufmg.br; ORCID: <https://orcid.org/0000-0002-2489-7655>.

² Professor do departamento de Geografia do Instituto de Geociências (IGC) da Universidade Federal de Minas Gerais (UFMG), Campus Pampulha, Belo Horizonte. E-mail: alexandrinogarcia@ufmg.br; ORCID: <https://orcid.org/0000-0001-7144-9866>.

En el mundo contemporáneo, es cada vez más importante discutir las relaciones laborales derivadas del auge del capitalismo. Este artículo representa un esfuerzo en esta dirección, centrándose en este tema. Se parte aquí de dos conceptos acuñados por Marx y Engels, los de trabajo formal e informal, desde la perspectiva de las relaciones laborales en el contexto de las actividades de recolección y reciclaje, precisamente dentro de la realidad brasileña. Tales actividades consisten en una profesión contradictoria, pues, aunque tienen un gran valor social y ambiental, sus operadores no reciben el debido reconocimiento, pues su labor se basa en recolectar los restos del consumo del otro. Con eso en mente, es fundamental reflexionar sobre las razones que llevan al capitalismo a incentivar actividades marginadas como estas. La hipótesis en la que se basa este artículo es que el capitalismo lo hace para mantener la superioridad de una pequeña porción de la sociedad, mientras que otra es objeto de la sobreexplotación.

Palabras clave: Trabajo formal. Trabajo informal. Ordenaciones formales. Recolectores de materiales reciclables. Reciclaje.

Introduction

In the face of the rise of capitalism, which considerably modifies the means of production leading to an intense industrialization, it is essential to analyze how labor relations have developed in this context. It is not difficult to realize that, in the contemporary world, these relationships emphasize social inequalities, perpetuating the marginalization of a more vulnerable part of society.

Based on this understanding, this article seeks to present a brief overview about the basics of *formal work and informal work*, more precisely with regard to the work relationships that occur within the activities of waste picking and recycling. To this end, it is organized into three sections, the first of them addresses one of the main characteristics of the capitalist system: *the accumulation of capital*. The accumulation, it is worth saying, derives from the exploitation of the surplus generated by the labor force and is due to the fact that, in our time, many people are in subaltern conditions of employment.

Also in this section, we use the concept recommended by the International Labor Organization (ILO) of *decent work*, which refers to work that generates income for workers and their families, respecting fundamental rights and appropriate conditions. Consecutively, it is exemplified that recycling cooperatives make up the category of *informal work*, which is due to the marginalized condition of workers, who seek in recycling a way to meet their most basic needs, which they cannot achieve by formality. Finally, we discuss the concepts of *productive work* and *unproductive work*³, coined by Marx and Engels (2006), being the first directly included in the capital cycle, transforming money into money, and the last, in the provision of services.

³For us, this is a sample of how capitalism needs unequal conditions and vulnerability to maintain the *status* of superiority of some over others.

The second section, in turn, presents Law No. 12,305 of August 2, 2010, which deals with the packaging, collection, treatment and disposal of solid waste, subsidizing the practice of waste pickers. This step is essential to understand the work and object of the collection work, on which the authors who distinguish it and associate it with the recycling activity.

Finally, the third section seeks to provide an understanding of the activities of waste picking and recycling, noting that, despite being dependent on each other, they are different. In this section it is investigated, from the socio-historical point of view, how the recycling activity began in several scenarios. There is also talk about the paradox of this craft, which, although it has a great social and environmental importance, is not properly valued, precisely because it is based on the management of waste from others.

Therefore, it is true to say that this article criticizes capitalism and the way this system uses and exhausts natural resources, making recycling a market and waste, commodities. It also criticizes the way that capitalism has modified labor relations by establishing categories such as formality and informality, which contribute only to the maintenance of a framework in which a minority enjoys the wealth that the majority produces without being able, however, to have the same enjoyment.

Metodology

This article consists of a theoretical review carried out from 30 papers, among them articles, books and book chapters, found in a survey conducted on the Google Academic platform, between March 20 and 21, 2020, with *the keywords formal work and informal work* combined. From the plethora of academic-scientific productions located, those that presented some discussion that articulated the terms mentioned to the themes of recycling and the work of waste pickers were carefully "cured".

The survey was carried out in order to highlight the texts most appropriate to the researched theme, published in the Brazilian academic scope, in journals and other means of scientific dissemination, such as books and event anais. However, it is important to emphasize that, as there are many productions regarding the work and its relationship with the recycling activity, it was necessary to consider that some of them were more appropriate to the proposed reflection.

Therefore, as for the categories of formal work and informal work, the productions of Keynes (1992), Harvey (1999), Quintão (2004), Lisboa (2005), Marx and Engels (2006), Araújo *et al.* (2015), Parente and Gomes (2015), Durães (2016) and Rosa, Sgarbi and Piana

(2017). With regard to the bibliography that related them to recycling and collection, the selected works were those of Rodgers (1995), Corrêa (2000), Vilhena, Lustosa and Ziglio (2002), Lajolo (2003), Brazilian Institute of Geography and Statistics (2007; 2012; 2013), Bosi (2008), Silva and Silva (2010), Damásio (2011), Silva and Mello (2011), Institute of Applied Economic Research (2013), Braga, Lima and Maciel (2015), Teixeira (2015), Agência Brasil (2017), Almeida (2017), Castro (2017), Dagnino and Johansen (2017), Schneider *et al.* (2017), Souza and Batista Junior (2017) and Durand and Neves (2019).

A survey was also carried out on the laws, norms and agreements that deal with the themes of waste collection, recycling and waste, in order to map the situation of the work and the object of work of waste pickers in Brazil. In all, 12 documents were destroyed, including: ABNT NBR 10004 (BRAZILIAN ASSOCIATION OF TECHNICAL RULES, 2004); ABNT NBR ISO 14001 (BRAZILIAN ASSOCIATION OF TECHNICAL RULES, 2015); Law No. 6,938, of August 31, 1981 (BRASIL, 1981); Constitution of the Federative Republic of Brazil (BRASIL, 1988); Decree of September 11, 2003 (BRASIL, 2003); Decree No. 5,940 of October 25, 2006 (BRASIL, 2006); Law No. 11,445 of January 5, 2007 (BRASIL, 2007); Decree No. 7,405 of December 23, 2010 (BRASIL, 2010a); Law no. 12,305 of August 2, 2010 (BRASIL, 2010b); CONAMA Resolution No. 307 of July 5, 2002 (MINISTRY OF THE ENVIRONMENT, 2002); Sector Agreement for implementation of the Reverse Packaging Logistics System in General (MINISTRY OF THE ENVIRONMENT, 2018); and Brazilian Classification of Occupations (MINISTRY OF LABOR AND EMPLOYMENT, 2002).

These documents were discussed from texts by Pereira and Goes (2016) and Certeau (2017) and official publications of the Ministry of the Environment (2009) and the National Movement of Waste Pickers of Recyclable Materials (2008; 2014).

In this sequel, this work focuses on the establishment of a dialogue with authors who approaches the subject in a theoretical way and also through case studies. It is certain that each reflection has a thread-conductor and, thus, a specific objective, but what was considered, here, was the deepening of the everyday toil woven by the waste pickers and, in this sense, we sought to recognize the state of the art of the main scholars of waste picking and recycling. It should be said, however, that this state of the art, in general, operates with this theme under the aegis of the capitalist system of production and the relations that are established from this reality, as will be treated below.

1 Formal work and informal work

The Capitalist System has as one of its main characteristics the *accumulation of capital* from the exploitation of the surplus generated by the labor force (capital gains). Araújo *et al.* (2015) argue, agreeing with Keynes (1992), that this accumulation of capital also accounts for the scarcity of professional posts, since it is not possible to meet all the employment needs that arise, creating, in this follow-up, a huge "industrial army" reserve.

Because of these facts, many workers find themselves in subaltern jobs, which, among formal and formal jobs, often do not correspond to the perspective of decent work, according to the rules for the working conditions of the International Labor Organization (ILO). Araújo *et al.* (2015) point out that the concept of *decent* work emerged from the 87th International Labour Conference in 1999. This concept refers to productive work, which generates income for workers and their families respecting the appropriate conditions and fundamental rights as "[...] adequate social protection, social norms and workers' rights and social dialogue" (ARAÚJO *et al.* , 2015, p. 109).

Decent work is thus defined due to a set of rules aimed at certifying the worker the ideal conditions - therefore *decent* - so that he is guaranteed safety, considering that he has as sole or majority source of income for survival the salary from his employment (formal or informal). According to Araújo *et al.* (2015), the majority of the population of Latin America fits this item, occupying about 80% of the income of these families.

Araújo *et al.* (2015) still point out that the context in which the concept of decent work developed was that of a profound crisis that unfolded through changes in the capitalist system, precisely from the 1970s, and that lasts until the present time. Since then, the capitalist system has been characterized by neoliberal ideals and a new regime of accumulation — notifiedly, of financial capital. In addition, there was a relaxation of jobs (and forms of employment) and a kind of financial liberalization, which led to intense changes in employment relations.

As a result, unemployment rates increased, not only by the accumulation of capital from the exploitation of the surplus of unpaid work, but also by financial securities. According to Araújo *et al.* (2015), although unemployment rates are currently higher in countries of central capitalism, they become more worrisome in countries of peripheral capitalism, as the state's support network for the population is lower in these countries.

In Brazil, the commitments made to the ILO to promote decent work were established in 2003. Since then, technical cooperation was ensured to promote ideal conditions for workers, under the coordination of the Ministry of Labor and Employment.

Araújo *et al.* (2015) argue that, according to the ILO, decent work depends directly on the availability of quality jobs. When there is no availability of work, the number of unemployed increases, putting the population on the sidelines of employability and, consequently, directing these workers to marginal work. If there is a greater amount of work with available quality, the income of the population is converted into the "turnover" of capital, reducing the population in extreme poverty. On the other hand, when people are placed in charge of marginal work, they are directly linked to the averse of decent work, to the formal ones, which, unlike the formal ones, do not guarantee rights and supervision of employment conditions. This means, according to Araújo *et al.* (2015), an increase in the number of *indecent jobs*.

In Brazil, in 2012, the percentage of the population that held informal jobs was 43.1%. According to Araújo *et al.* (2015),

Informal work does not provide the rights that formal workers enjoy, such as access to social security, vacation, thirteenth salary, legal workload, salary proportional to function and safety in case of dismissal and/or health problems. We can then consider informality as one of the main sources of indecent work, for not legally providing the minimum conditions necessary to ensure the dignity, stability and safety of the worker. (ARAÚJO *et al.* , 2015, p. 111)

Araújo *et al.* (2015) brings an example of informal work that results from the marginality of workers in Brazilian cities: the work carried out in recycling cooperatives in the city of Maringá (and metropolitan region). As demonstrated, the work of picking recyclable materials has a direct relationship with the lack of access of the population to the formal labor market. The authors conducted a survey in exactly four recycling cooperatives, through which they identified 36 workers, 21 women and 15 men. The majority of the interviewed population is over 40 years old, did not complete elementary school and does not contribute to social security. This point is important because, due to the lack of contribution to the social security fund, these workers, in case of shutdown of cooperatives, will not be assisted by the State, being, therefore, without guarantee of unemployment insurance, vacation, thirteenth salary, guarantee fund and retirement.

The impossibility of access to decent work in Brazil and the condition of misery seem to be closely linked. The previous example, that of recycling cooperatives, offers subsidies for this understanding, especially when it is taken into account that, at the time the study was conducted, the year 2013, most workers received up to R\$ 670.00 (on average), and the minimum wage was R\$ 620.00. Because of this, it cannot be disregarded that a considerable part of them relied only on this income for their survival and that of their entire family. When

these points hurt decent work labor agreement with the ILO, they also hurt the Constitution, which, in the case, should ensure the social well-being of the population.

Finally, about the discussion of Araújo *et al.* (2015), it can be instated that capitalism produces wealth, but not without leaving a large portion of the population in extreme poverty. It is in view of this that the need arises to think of a new social configuration that provides quality of life for all.

It is important to discuss, in addition to the source of income and the guarantee of survival, how the occupation of a job reflects on the value of the subject within society, bringing him visibility and social recognition. Unemployment, on the other hand, makes it invisible — in other words, an "excluded" from the processes of capitalism.

Rosa, Sgarbi and Piana (2017) build a reflection stating that the condition of "social question" of the working class is intrinsic to the capitalist system when it responds by inequality between classes, since a tiny portion of the population concentrates income to the detriment of the majority, which concentrates nothing and has its workforce exploited, receiving little for its efforts. This majority, at the same time as it is exploited, is in a situation of social vulnerability precisely due to the lack of access to capital, which in itself generates the scarcity of resources.

According to Rosa, Sgarbi and Piana (2017), only recently, in the 1930s, the Brazilian State developed structures of social guarantees for the population. These structures, later, constituted themselves within the social sphere as social security, social/public security and public health. The first is a guarantee of state rights for the most needy population. The second, related to taxpayers, has its contributions regulated by the government and redistributed (retirement, guarantee fund and unemployment insurance, for example). The last, health, is universal in character.

Rosa, Sgarbi and Piana (2017) argue, however, that despite these alternatives of the State to guarantee rights to the working population, the vulnerability and inequality of this entourage are still noticeable, because capitalism also needs these great "social differences" for its existence. In this sense, informal work, in most cases, is on the margin of social security, since the informal worker did not contribute to the INSS and, therefore, does not have his rights protected as a "productive" worker (in accordance with the Marxian concept). According to the authors,

In this sociability, work is constructed as a paradox, on the one hand it produces identity, living conditions, creation and on the other that produces exploitation, alienation, elimination of wage labor. The absence of work is currently one of the

main factors that cause social exclusion, unemployment, and then as a consequence precarious and informal work. (PINK; SGARBI; PIANA, 2017, p. 35)

Thus, as Rosa, Sgarbi and Piana (2017) highlight, what constitutes the marginal identity of a worker is not only his question of informality, but also the work he performs and the status that *this* work has in society. A classic example of this marginalization would be, again, that of recyclable solid waste pickers, who, even collaborating with urban cleaning and the return of raw materials to the production cycle, generating mitigating actions of environmental recovery, are marginalized by living their realities around the collection of things rejected by the Other, being still overexploited as to the purchase value of these materials. Thus, informal work and the absence of rights before the State make the subject invisible to other subjects.

Since the beginning of⁴capitalism, workers have built proposals for organization as a counterpoint to capitalist molds. According to Parente and Gomes (2015), in line with Quintão (2004), the first organizations that stood out in this sense were cooperativism, mutualism and associativism. Currently, the characteristics of financial accumulation that sustain capital are also immersed in social and labor relations. The increase in unemployment appears as one of the most present characteristics. With this, many subjects are marginalized, and this generates other ways of working as a way to ensure survival in vulnerable conditions. What the authors propose in their discussion is a model called *Solidarity and Social Economy*, which creates a new way of dignified survival — an alternative or counterpoint to the capitalist system, which depends on the "social margin". In his words,

It therefore corresponds to the vehicle of approach to the economic whole of those who are in a condition of marginalization and who have not been able to access a job in the capitalist system, or who have chosen to create an economic alternative of life for themselves and their families. (RELATIVE; GOMES, 2015, p. 83)

This "economic" model is mainly in the light of informal work. Dialoguing with Lisbon (2005), Parente and Gomes (2015) argue that, unlike other economic or alternative forms present in the third sector, the Solidarity Economy proposes, first of all, the autonomy of the subjects and the possibility of self-sustainability. So, the subjects see themselves inserted in the capital circuit no longer as marginals, nor as "slaves of capitalism".

The reality between capital-work, a concept discussed by Marx (co-authored with Engels), is present from the production cycle and, supposedly, by the cycle of exploitation of the surplus of unpaid work (added value) to productive workers and, in a more "current" way,

⁴ Although a punctual origin cannot be established for capitalism, its growth and expansion are markedly seen from the 19th century on.

to unproductive workers. Communing the theses of Marx and Engels (2006), Durães (2016) discusses two types of work: productive and unproductive. According to the author, Marx and Engels (2006) *productive work* said that productive work is one that is directly part of the capital cycle, in order to transform money into money.

This occurs when the worker exercises his workforce in the middle of the capital cycle, with the surplus of unpaid work (and returning to the "pocket" of the boss) being then not paid with "income", but with a money that actually composes the cycle without being removed from it. The *unproductive work* is the one performed and paid from the provision of services (such as doctors, lawyers and other self-employed), through which the capital leaves the production cycle and returns only when there is its insertion in the purchase of goods, etc., even if by third parties.

Durães (2016) states that unproductive work within the informal sector is an increasingly present reality, especially in the Brazilian sphere. Therefore, to focus on the understanding that, although they leave the "traditional" cycle of capital, the forms of exploitation of the workforce are renewed is to look at the current dynamics of the capitalist system. According to the author, Harvey (1999) already indicated these changes in the molds of this system at the end of the 20th century and at the beginning of the 21st century, when capitalism became more flexible about the accumulation of capital (becoming financial).

Durães (2016) still demonstrates that unproductive work, which for Marx and Engels (2006) had its own molds and a functioning averse to productive work, is now constituted in order to intensify the same relations of exploitation present in productive work, of "boss" and "employee". This is the case for waste pickers, whose financial gain depends directly on the prices set by the market on the scrap they collect and sell.

Informal work, thus, being directly related to the concept of unproductive work for capital — because it is not present internally in the production cycle, although it is externally eats — in addition to not guaranteeing basic rights to workers, has also intensified the relationship of exploitation between the holders of capital and people in a condition of economic vulnerability. From the economic point of view, the "unproductive" work in the eyes of informality is another means of guaranteeing the production/reproduction of capital (transformation of money into capital). According to Durães (2016),

The indirect street activities, therefore, when understood as capitalists, can also be understood as productive activities, in this case, understanding production as a *way of producing and social* reproduction of the individuals themselves, that is, production of life in general (work necessary for existence). Therefore, such works would also be signifying productive activities for the maintenance of the existence

of those involved and generating wealth of others, but not value in the classical sense. This would be the first, the most immediate, plan to understand the meaning of these works. The second understanding would be the linking of this type of work with the reproduction of the capitalist system, therefore, as part of capitalist production and its process of reproduction and/or accumulation, whose participation (of this informality) occurs indirectly. (DURÃES, 2016, p. 885, author's griffins)

As demonstrated, the statement that capitalism establishes a paradoxical relationship of marginalization with the dependence of the "marginal" is valid. Informal work, which owes its existence to the burden generated from the production cycle, works as a guarantee of survival for a large portion of the population. However, the fact that these people are not reinserted into the "machine" of capital, in the "formal" production cycle, is one of the conditions in which this system is based for its existence.

2 National Solid Waste Policy: Law 12,305/2010, Decrees, Social Projects and Sector Agreement on Packaging

The work of waste picking, of a structurally informal nature, emerged as a strategy of survival to poverty. Today, however, it is also an important element of the sustainability program, which began to develop in the 1970s with the Stockholm Conference, and took shape in 1992 with the United Nations Conference on Environment and Development in Rio de Janeiro. Progressively, the waste picking activity was occupying a prominent place, with "[...] the promotion and sustainability of production, the promotion of conscious consumption and the constitution of new urban ways of life, marked by respect for the environment" (PEREIRA; GOES, 2016, p. 12). As Certeau (2017) adds,

It is set aside in one of the technical and secret areas (hospitals, prisons, garbage dumps) that relieve the living of everything that could resin at the production and consumption chain and that, in the shadow where no one penetrates, repairs and sorts what can be sent back to the surface of progress. Trapped there, it becomes a stranger to yours. You don't live in their homes anymore or in your talk. Perhaps the exile will one day return from the strange country whose language, in his house, no one knows and which is to be fatally forgotten. If he returns, he will be the distant, not signifiable object of an effort and failure impossible to trace in space and in familiar language. (p. 266)

Despite the social and environmental relevance of the waste picking activity, it was not easy to raise rights that safeguarded it, especially due to the devaluation of waste pickers by society. It is worth mentioning, however, that in the early 2000s, particularly since the election of President Luiz Inácio Lula da Silva, some significant advances were achieved. The creation of the Interministerial Committee for Social and Economic Inclusion of Waste

Pickers in 2013, for example, placed waste pickers as one of the governmental priorities (BRASIL, 2003; 2010a).⁵

The General Secretariat of the Presidency of the Republic, the Ministry of Labor and Employment, the Ministry of Social Development and the Fight against Hunger, the National Bank for Economic and Social Development (BNDES) and the Banco do Brasil Foundation participated in this Committee. The participation of these entities and institutions has been translated now into decrees, or in programs and projects.

From then on, a "work to raise awareness of waste pickers about the importance of the organization for the category" (PEREIRA; GOES, 2016, p. 13). In this follow-up, the valorization of the scavenger function began to be thought more effectively, giving this category of work more autonomy. According to Pereira and Goes (2016), "the government's way of acting has succeeded, in a country with continental dimensions and social conditions so unequal, from transforming almost invisible people into citizens" (p. 14).

At the turn of the 2000s to the 2010s, waste pickers achieved one of their most notable achievements: Law No. 12,035, which instituted the National Solid Waste Policy "[...] with its principles, objectives and instruments, as well as on the guidelines related to integrated management and management of solid waste, [...] the responsibilities of generators and public authorities and the applicable economic instruments (BRASIL, 2010b). This achievement was a game changer, at least on paper, for these subjects who make a living on the streets giving value to what the rest of society discards, risking without any kind of physical or moral security and predetermined time.

Some highlights are worth considering law 12,305, taking into account the theme on which this article focuses. In chapter II, in section III, which deals with state plans for solid waste, is Article 17, which, in item V, defines "goals for the elimination and recovery of dumps, associated with social inclusion and economic emancipation of waste pickers of reusable and recyclable materials". In section IV, which deals with municipal plans for integrated solid waste management, it is possible to locate Article 18, which, in item II, advocates the implementation of "selective collection with the participation of cooperatives or other forms of association of waste pickers of reusable and recyclable materials formed by low-income individuals".

This recommendation is reinforced in item XI of Article 19, which discusses "programs and actions for the participation of interested groups, especially cooperatives or

⁵ Accessed August 1, 2020: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/decreto/d7405.htm

other forms of association of waste pickers of reusable and recyclable materials formed by low-income individuals, if any". Consecutively, it is still referenced in Chapter V, precisely in article 42 section III, which determines the "implementation of physical infrastructure and acquisition of equipment for cooperatives or other forms of association of waste pickers of reusable and recyclable materials formed by low-income individuals" (BRASIL, 2010b).

Law 12,305 also sheds light on the organization of the means of production of waste pickers. For example, in chapter III item IV, it provides "to encourage the creation and development of cooperatives or other forms of association of waste pickers of reusable and recyclable materials" (BRASIL, 2010b).

In Chapter II of Law 12,305, more precisely in Article 6, mentions of the categories of *polluter pays and protector-recipients* are notable in Chapter II of Law 12,305, more precisely in Article 6, the mentions of the categories of *polluter pays and protector-recipients* (BRASIL, 2010b). As for the first, its problem is based on the obligation of the agent to bear the costs of repairing the damage caused by him to the environment as a normative principle of economic character, given that it is imposed on spending linked to its polluting activity.

It is important to note that, by polluter, it is understood, according to Article 3, item IV, of Law No. 6938, of August 31, 1981, "[...] the natural or legal person, of public or private law, directly or indirectly responsible for activities causing environmental degradation" (BRASIL, 1981). Although commonly seen as an active subject, Article 225 of the Federal Constitution offers subsidies for its identification as a taxable person, especially when it stresses that "it is the duty of the Public Power and the collectivity to preserve and defend the environment" and determines that both the collectivity and the public authorities can be regarded as polluters (BRASIL, 1988).⁶

ISO 14001 also discusses the figure of the polluter pays. It, which includes a series of standards focused on the issue of environmental responsibility as a prerequisite for the survival of species of fauna, flora and the environment in general, recommends that organizations address the damage of pollution caused by their activities in a manner proportional to the extent of the environmental impact on society and the corrective action required or according to the level of pollution accepted by legislation (BRAZILIAN ASSOCIATION OF TECHNICAL STANDARDS, 2015).

As determined by Law 12.035, manufacturers, importers, distributors, consumers and holders of public services for urban cleaning and solid waste handling are responsible for the

⁶ Accessed August 6, 2020: http://www.planalto.gov.br/ccivil_03/leis/L6938.htm

life cycle of products within the reverse logistics system. This system seeks, through a set of actions, possibilities of return and recovery of solid waste. In order to comply with the National Solid Waste Policy, this system can be implemented through legal provisions, such as sectoral agreements and the terms of conduct adjustment (TAC), which are regulations issued by the Government, such as the Sector Agreement for the Implementation of reverse packaging logistics system in general. This agreement, according to data from the National Information System on Solid Waste Management,⁷

[...] was signed by the Union, represented by the Ministry of the Environment (MMA), and by the business sector (Coalition), on November 25, 2015. The Coalition, therefore, means all the companies listed in the Agreement that is carrying out actions to enable the return of packaging that makes up the dry fraction of municipal or comparable solid waste, for environmentally appropriate final destination purposes, that is, companies that are implementing, structuring and operationalizing reverse logistics. (MINISTRY OF THE ENVIRONMENT, 2018)

The Sector Agreement for the Implementation of reverse packaging logistics system in general is an important milestone for ensuring the final and environmentally appropriate disposal of packaging such as paper and cardboard, plastic, aluminum, steel, glass and the combination of these materials, such as long-life cartonated packaging, for example. In relation to waste pickers of recyclable materials, an important achievement as a working class was the registration of their activity in the Brazilian Code of Occupations (CBO), with the code 5192-05, which occurred in 2002. Since then, waste pickers have been formally recognized as professionals.⁸⁹

The CBO text establishes that the waste picker is the most important subject in the cycle of the recycling production network, being at the tip of the production process, doing about 89% of all work (MINISTRY OF LABOR AND EMPLOYMENT, 2002). However, the scavenger is the one who wins the least. Even though he is responsible for about 60% of all waste that is recycled today in Brazil, he lives in poverty, on the streets and in the dumps throughout Brazil.¹⁰

⁷ Accessed August 6, 2020: <http://www.sinir.gov.br/web/guest/acordo-setorial-para-implementacao-de-sistema-de-logistica-reversa-de-embalagens-em-geral>

⁸ The CBO is the document that recognizes, names and codifies the titles and describes the characteristics of the occupations of the Brazilian labor market. Its updating and modernization are due to the profound changes that have occurred in the cultural, economic and social scenario of the country in recent years, implying structural changes in the labor market.

⁹It is noteworthy that the Interministerial Committee for the Inclusion of Waste Pickers, created by President Lula in 2003, was the legal basis for the construction of everything else, since its objective was to think about the "support to be given to the enterprises of waste pickers of recyclable materials" (BRASIL, 2003, 2010a).

¹⁰ Accessed August 1, 2020: <http://www.mtecbo.gov.br/cbosite/pages/home.jsf>

The National Movement of Waste Pickers of Recyclable Materials (MNCR) claims that a waste picker collects, on average, 600 kg of recyclable materials per day and that, per month, he obtains an income of only R\$ 140,00. On the other hand, contractors paid by municipalities around Brazil receive millions a year to make the joint collection, paying miserable wages and overcrowding landfills (NATIONAL MOVEMENT OF WASTE PICKERS RECYCLEAVEIS, 2014). According to Certeau (2017),

This phenomenon is generalizing everywhere, even if the pictures pity it or "close your eyes" so as not to see it. Accused of stealing, recovering material for his own benefit and using the machines on his own, the worker who "works with scrap" subtracts from the factory time (and not so much goods, because it is only used elsewhere) in view of a free, creative and precisely non-profitable worker. (p. 82)

In 2006, Decree No. 5,940 was signed, which made selective joint and several collection mandatory with waste pickers in federal public agencies (BRASIL, 2006). The decree represented another achievement, which took place in the midst of much complacency, with hundreds of waste pickers occupying a large hall of the Planalto Palace for the first time.¹¹

Law No. 11,445 of January 5, 2007, known as the National Sanitation Law, proved to be a major leap in the achievements made by waste pickers, since its approval implied the amendment of the Bidding Law, allowing municipalities to hire cooperatives and waste pickers' associations to collect, process and commercialize solid waste without the need for bidding (BRASIL, 2007). Although slowly, parameters such as these were gradually modifying the country's scenario, requiring public entities to elaborate solid waste plans, close dumps and implement selective collection. With Law 12,305, waste pickers became a fundamental part of selective collection, and they were cited twelve times in the text of the legislation, remaining in their instruments, principles and objectives and in the obligations of the states, municipalities and the Union.¹²

Decree No. 7,405, of December 23, 2010, regulated the National Solid Waste Policy, establishing that municipalities should prioritize the participation of cooperatives and associations of waste pickers in selective collection. Although this possibility arose in the basic sanitation law mentioned above, it was with Law 12,305 that the hiring of waste pickers began to be prioritized. Since then, waste pickers have been inserted into the formal system of public cleaning, with the realization of selective collection, which, however, needed to be rethought so that there were conditions for the exercise of work.

¹¹ Accessed August 5, 2020: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/decreto/d5940.htm

¹² Accessed July 5, 2020: http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2007/lei/111445.htm

It was in the wake of this need that Decree No. 7,405 reissued the Interministerial Committee created in 2003, which came to be called the Interministerial Committee for Social and Economic Inclusion of Waste Pickers of Reusable and Recyclable Materials (CIISC), adding 25 organs of the Federal Government. In addition, the decree created the Pro-Waste-Picker Program, in order to integrate and articulate government actions aimed at supporting and fostering the productive organization of waste pickers, improving working conditions, expanding opportunities for social and economic inclusion and expanding selective collection of solid waste (BRASIL, 2010a).

Also with Decree No. 7,405, sectoral policies were articulated and the execution of actions aimed at the waste picker population was followed up. In order to increase the performance of Pro-waste-picker as an essential part of its movement, CIISC has *chained CATAFORTE: Sustainable Business in Solidarity Networks*. The purpose of this purpose was to organize solidarity networks composed of cooperatives and associations of waste pickers of recyclable materials in order to enable advances in the value network and insertion in the recycling market in a competitive way, strengthening them as service providers of public policies for selective collection of solid waste and reverse logistics (MINISTRY OF THE ENVIRONMENT, 2009).

In addition, the growing formation of popular organizations was also significant so that the "invisible" actors of society could articulate in "a movement that fights for recognition, improvement and advances in the working conditions of waste pickers of recyclable materials" (PEREIRA; GOES, 2016, p. 23). This is the case of the aforementioned MNCR, which arose with the purpose of "contributing to the construction of fair and sustainable societies from the social and productive organization of waste pickers of recyclable materials and their families, guided by the principles that guide their struggle (self-management, direct action, class independence, class solidarity, direct democracy and mutual support), whether they are in open dumps , on the streets or in the process of organizing" (NATIONAL MOVEMENT OF WASTE PICKERS OF RECYCLABLE MATERIALS, 2008).¹³

In the midst of all these transformations, the waste pickers began to think about their own demands and "began to count on an organization born within the waste picking activity and that was organized, managed, planned and formulated by the waste pickers themselves"

¹³ Accessed: August 7, 2020: <http://www.mnrc.org.br/mnrc/sobre-o-mnrc/o-que-e-o-movimento>

(PEREIRA; GOES, 2016, p. 23). Thus came a category that followed the premise of "pride that the waste picker has to be a scavenger" (PEREIRA; GOES, 2016, p. 23), incorporating citizenship in a movement to fight for the recognition, improvement and working conditions of waste pickers. As available Pereira and Goes (2016),

For us, the good, the good, are those who fight against inequalities and injustices, those who give new meaning to their lives and their jobs and make an activity a central and strategic debate for the country. It is those who propose to rethink the productivist economic model of a consumerist society from solid waste and the impacts they have on the environment and work. It is the ones that lead us to reflect on the accumulation of dumps in territories inhabited almost exclusively by blacks and there are none in the noble neighborhoods of the metropolises. We are enchanted by the daily battles, at the same time strong and gentle, of waste pickers, many in a national movement and, in some situations, supported by solidarity incubators. (p. 15)

With regard to recycling, the National Council for the Environment (CONAMA) defines it as "the process of reuse of a waste, after being submitted to transformation" (MINISTRY OF THE ENVIRONMENT, 2002). According to classification NBR 10004 of the Brazilian Association of Technical Standards (2004), waste can be classified as:

- A) class I (hazardous) residues: are those that present some degree of dangerousness, such as flammability, corrosiveness, reactivity, toxicity and pathogenicity;
- B) class II-A residues (non-inert): are residues that have properties such as biodegradability, combustibility and solubility in water; And
- C) class II-B waste (inert): they are waste that does not present any kind of risk to health or the environment.

The waste comes from domestic or residential spaces, public and commercial or industrial, and can be reused in the solidarity organization of cooperatives and associations. In this operating model, waste pickers are articulated based on the premise of equal work and economic distribution of production. This means that "the impulse to this activity and the economic benefits of its expansion must be distributed fairly, [in a manner] proportional to the work performed and in solidarity" (PEREIRA; GOES, 2016, p. 24).

Even populating the dumps that are located on the opposite side of the neighborhoods destined for the more affluent population, the waste pickers, although not having their work legitimized, offer many benefits to society. This is because they work with solid waste that, unlike the common tailings, can be reused through the work of recycling, re-entering the market as raw material or even as a recycled product, resulting in both social and environmental gains.

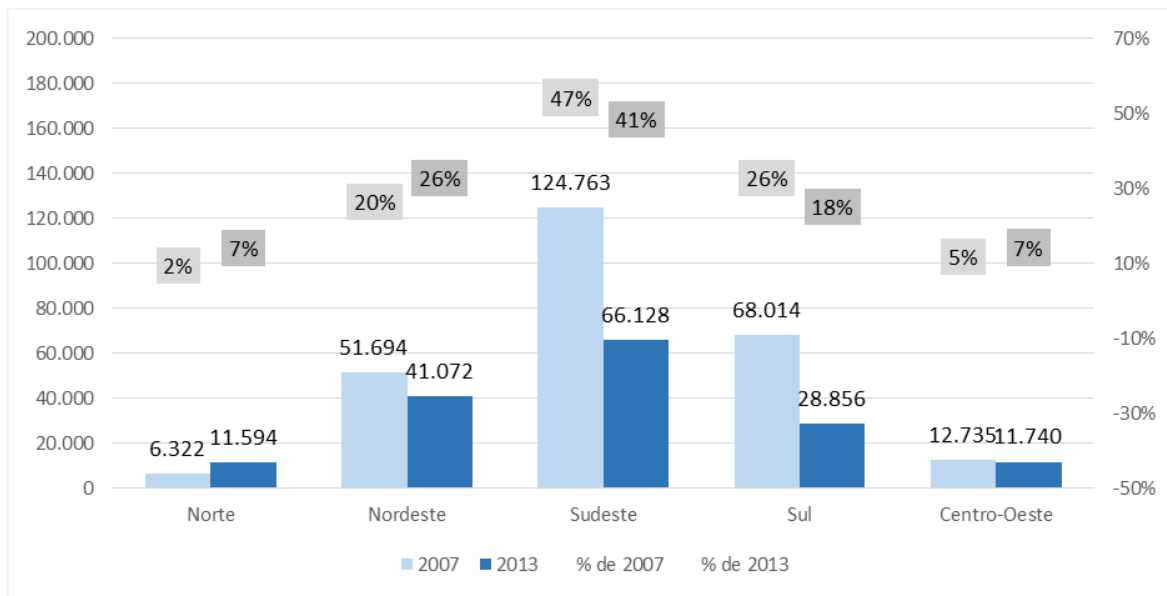
3 Waste pickers and recycling

Statistics about the activity of waste picking in Brazil are not unanimous. In the 2013 National Household Sample Survey (PNAD), 159,390 individuals declared themselves as waste pickers for recyclable materials (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2013). This number, however, is contradicted by another, which results from the analysis of the Institute of Applied Economic Research (IPEA) from data from the 2010 Demographic Census of the Brazilian Institute of Geography and Statistics (IBGE). In this analysis, 387,910 people who had their main means of subsistence were identified in the waste picking (INSTITUTE OF APPLIED ECONOMIC RESEARCH, 2013). Although both surveys were not able to capture the real contingent of people working as waste pickers, the IPEA analysis at least managed to provide a synthesis of the most common social indicators about the actors of the recycling network, making it possible to assign them a socioeconomic profile.

In relation to The PNAD, if the data obtained in 2013 and those in 2007 are compared (Graph 1), it can be seen that the number of Brazilians who declared themselves as waste pickers suffered a 40% fall, in view of the 2007 record, which is 263,528 people who performed the waste picking activity. It is worth mentioning that in 2013 the country achieved a lower unemployment rate of only 5%.

The hypothesis that can be given of this reality is that the population was technically in a situation of full employment and that the economy and consumption were in high activity, being heated by the emergence of the classes until then subalternized, which could finally reach purchasing power. It is worth noting that the region that recorded the largest reduction in the number of workers in the waste picking was the Southern region, with a 58% drop in the number of self-declared waste pickers (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2007; 2013).

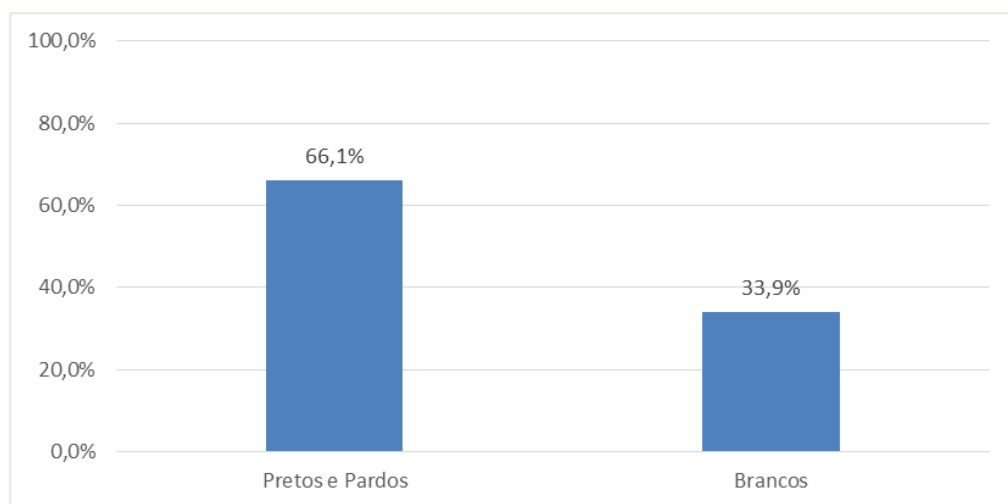
Graph 1 - Comparison of the number of waste pickers by region between 2007 and 2013.



(translation of the text in the image: North - Northeast - Southeast - South - Midwest)
 Source: INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA, 2007; 2013.
 Org.: Elaborate by the author.

As for IPEA data, these make it possible to realize that the waste picking activity reflects the historical process of exploitation and marginalization of the Brazilian black population. As can be seen in the following graph (Graph 2), the country's waste pickers are mostly (66%), black (APPLIED ECONOMIC RESEARCH INSTITUTE, 2013).

Graph 2 - Percentage of waste pickers by color/race.



(Translation of the texts in the image: Blacks and Browns - Whites)
 Source: INSTITUTO DE PESQUISA ECONÔMICA APLICADA, 2013.
 Org.: Elaborate by the author.

It is noteworthy that the Brazilian population is mostly black, with a percentage of 54.9% of blacks and browns among those over 14 years of age (AGÊNCIA BRASIL, 2017). This reality linked to the number of black waste pickers makes clear the condition of extreme social and racial inequality that has plagued the country historically.

As collection and recycling depend on the disposal of reusable and recyclable material, data from the 2010 Demographic Census indicate that waste pickers, mostly (93.3%), live in urban areas, given that they concentrate the largest number of people and, proportionally, the largest amount of waste (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2012). This is due to the finding that waste production, known as *tailings*, is an essentially urban problem, since it derives from the rampant consumption of the inhabitants of the cities (SILVA; MELLO, 2011).

Corrêa (2000) explains that space is a product and producer of social relations, and is also fundamental for its maintenance. Following this line of reasoning, the space of cities is constituted through the social relations corresponding to the urban configuration, while these same relationships correspond to the urban logic.

From this it can be insinuated that the practice of recycling materials is related to the need of the industry to obtain expansion of its profit, either through the workforce of waste pickers and other professionals involved in this segment, or through the low costs of materials that serve as raw material for the manufacture of new goods. In this sense, the existence of waste pickers of recyclable materials is intrinsic to the configuration and logic of the urban space, given the distribution of industries in this space and the wide availability of waste related to the population swelling of cities.

Data from the 2010 Census on the percentage of waste pickers living in urban areas are corroborated by the analysis of Damásio (2011). This explains a link between the problem of waste and the process of emptying rural areas and swelling of cities. In this follow-up, it can be said, reiterating what was previously claimed, that the accumulation of waste is a problem of urban areas, and not rural areas. To understand it in this way, it cannot be lost in view of the view that the activity of waste picking arose on the margins of society, in the dumps and in the streets, and of the urban centers that formed from the 1950s, through the growth of The Brazilian metropolises and, concomitantly, of the number of migrants who came mainly from the Northeast in search of work.

In order to understand the craft of collection and its specificities, it is necessary to understand the difference between collection and recycling, which, although two processes are linked, have an order of occurrence. According to Souza and Batista Junior (2017), waste

collection is the initial process of collection and sorting of disposal material. Recycling, in turn, occurs after the purchase of these materials already screened.

Souza and Batista Junior (2017) argue that, in order for the collection to be efficient, it is essential to separate the waste from the source that produces them, in order to preserve the recyclable material from the non-recyclable, valuing it, and not to interfere negatively in the work performed by the collectors, nor in the market value of what they collect. After collection, the material is screened at specific locations, separating the wet ones so that they are then sold to the recycler.

The work carried out in collection and screening is responsible for generating formal and informal employment for people who are not qualified and, often, in situations of unemployment and vulnerability. In the words of Souza and Batista Junior (2017), "the option of becoming a waste picker of recyclable products comes from the 'non-option' of obtaining formal work, so this action cannot be characterized as a free and spontaneous action" (p. 6).

The activity of waste picking and, supposedly, the direct connection of individuals with the waste of another portion of individuals have existed since ancient age, being possible to draw a parallel with this reality in the "postmodern" era. However, what was once a work carried out for self-consumption, such as the collection of clothes, food, etc. discarded by a portion of the population and collected by the most socially vulnerable people, from *the marketization of the waste* — that is, from the understanding that many solid waste sums can return to the industry and collaborate for the enrichment of the economy — has become a work that excels in the collection of objects aimed at recycling (with market value) and, later, of objects of self-consumption, as Castro (2017) points out.

As Souza and Batista Junior (2017) still argue, based in Lajolo (2003), the service of waste pickers working on the streets is responsible for collecting 90% of the waste that return to industries as production materials. This service, as demonstrated by Vilhena, Lustosa and Ziglio (2002), represents an important savings to municipal governments in relation to expenditure on collection services and the amount of common waste that reaches landfills.

Braga, Lima and Maciel (2015) argue that, with the changes of the capitalist system, whose characteristics affirmed in the post-war period change after the crisis of 1979, the security of capital has changed, giving rise to a financial capitalism in which it is not necessary to maintain jobs for the turning of capital, but rather the credit of institutions that regulate the market. Thus, many people suffer an "eviction" from their posts. The authors also state that jobs are directly linked to the social importance of individuals and that their social

roles are due to the importance of their jobs. Thus, from job losses, many individuals suffer social marginalization because they also lose their "social importance".

Faced with the search for survival and pseudosafety, many people resort to formal work, and, in this context, there is an increase in the professional practice of the picking of recyclable materials. However, waste pickers, despite generating income for their survival by entering this informal labor market, are socially marginalized due to the devaluation of their jobs.

Based on reports from two interviewees, a 49-year-old man and a 57-year-old woman, Braga, Lima and Maciel (2015) discuss the meanings attributed to the work of waste picking and the reasons why workers perform this work. According to the authors, the reports confluence in the notion that the work of waste picking appears as the only plausible alternative for sustenance and financial survival of individuals. After entering the condition of unemployment, often one can not get a professional position formally, even if it is qualified, and this situation becomes increasingly intense, especially after the age of 40. In line with Bosi (2008), Braga, Lima and Maciel (2015) declare that the expropriation of formal jobs qualifies the worker for the work of picking, since this market is based on the exploitation of cheaper labor, that is, of individuals in a situation of vulnerability.

In the midst of the condition of vulnerability and the need to devote themselves to the work of waste picking, the workers put themselves on exhaustive journeys, which represents a broad aggression to their health. In addition, 60% of waste pickers live and work inside dumps, 30% live on the streets tearing bags and common waste and only 9% work in cooperatives. That is, most of these waste pickers are devoid of public policies for employee support, such as vacations, thirteenth, guarantee fund for service time, etc.

Braga, Lima and Maciel (2015) claim that the representations of these workers about their offices are paradoxical: at the same time that they proudly recognize the practice of decent work, they also emphasize how humiliated they are by picking up what is the result of discarding others.

In Brazil, the reality of people whose job is the cathartic materials goes according to the reality of countries of peripheral capitalism (HARVEY, 1999), where the support to this work model grows concomitantly with unemployment. According to Castro (2017), there is no exact survey of how many people work in this reality in the country, in dumps, streets and / or landfills. However, it is possible to have an estimate according to the MNCR, which reports that there are about one million people in these conditions. The author also states, from the research conducted by IPEA in 2013, that the majority of the workforce in this sector

in Brazil comes from black and unemployed men, with a low level of education and about 40 years of age, with long working hours and unhealthy working conditions.

The growing number of workers who have been busy with the craft of the collection in recent years in the country related to the unbridled generation of solid waste is a reality that, if on the one hand, is openly open in the daily life of urban centers, at the door of houses and on the edge of the streets, in the inevitable conviviality with what had already been rejected, exposing some of what humanity is abject; on the other hand, it remains veiled, made up under the curtain of social projects and discourses that exalt the work with garbage as an alternative opportunity to generate income, and its recycling as a sustainable strategy for preserving the environment. Arguments that proceed, in fact, but that conceal another reality: the growth of the opulent recycling sector structured fundamentally in the exploitation of the workforce of these raw material collector subjects. (CASTRO, 2017, p. 6)

Dagnino and Johansen (2017) produce a sociodemographic analysis of workers in the recyclable materials picking sector in Brazil. According to the authors, there are almost 400,000 workers linked to the collection of tailings (and its branches), of which almost 200,000 are linked to the collection of recyclable materials. Therefore, they use the classifications on work assumed by IBGE, through which they demonstrate a demographic comparison between the total occupied population (OP) in the country and the total number of workers of recyclable materials.

It is important to highlight that, of the total percentage of workers in the recycling sector in Brazil, most are concentrated in the southeast region, followed by the northeast and south. On the other hand, when a comparative of this occupation is drawn per 100,000 inhabitants, the northeast region assumes the tip.

According to Dagnino and Johansen (2017), in regions where there is a higher concentration of recycling workers per 100,000 inhabitants, greater public policies aimed at the needs of this population are needed. On the other hand, in the regions with higher concentration, public policies aimed at encouraging the population with interest/need to enter this work sector may be necessary, because statistics show that the majority of waste picking workers are in an urban area.

In addition, it is noteworthy that the majority of the employee population in this sector, when compared to the population employed by the Labor Law Consolidation (CLT) standards, receives almost half of its income (DAGNINO; JOHANSEN, 2017). This factor is crucial to identify and prove the conditions in which this population is with regard to vulnerability. This is also added to the fact that, in relation to the total Occupied Population, the workers of the waste picking are, in general, older (on average, 39 years, to 37), blacks (about 66% against 48%), among other characteristics.

On the overexploitation of the workforce of people in vulnerable conditions who depend on survival alternatives for their financial livelihood, Castro (2017) states that the role of separation and collection of solid waste for trade purposes, which will compose the production cycle of new products as a base raw material, is assumed by waste pickers, who, in their unhealthy routines, they seize the discarded content from the cities and then sell them at derisory prices.

Also according to the author, Karl Marx, two centuries ago, already demonstrated that, for the maintenance of the capital cycle, it is necessary that a portion of the population be considered an extremely devalued workforce, in order to concentrate the surplus capital in a single class. Thus, when NGOs and other environmental institutions give waste pickers *the status of "environmental agents"*, they disregard the main driving sphere for carrying out their work: the market value of the material they collect.

Thus, it does not mean that the work of these individuals does not collaborate as a mitigating measure for environmental pollution problems. However, to close in this perspective is to disregard the fact that the overproduction of discarded solid waste derives precisely from the destructive characteristic of the capitalist system and that these subjects work in this sector due to the need for survival and the absence of the possibility of employability in the formal sector.

Teixeira (2015) argues that the recycling industry depends essentially on the disqualified workforce. Thus, according to her, the increase in the number of waste pickers of recyclable materials coincides with the increase of this industry. In Brazil, the occupation of these posts is carried out by individuals in situations of economic vulnerability. This vulnerability, according to Silva e Silva (2010), stems from a deep social inequality that is based on a situation of great accumulation of capital by one class to the detriment of the absence of possession of the other. Thus, waste pickers are in a situation of marginality and social exclusion and are, according to Rodgers (1995) cited by Teixeira (2015), separated at different levels:

[...] (a) exclusion from the labor market because they are unemployed in the medium or long term; (b) exclusion from regular work because they are underemployed or even unemployed; (c) exclusion of access to decent housing and community services; (d) exclusion from access to goods and services, including public goods and services; (e) exclusion of access to land; and (f) exclusion from physical safety, survival and contingency protection. (TEIXEIRA, 2015, p. 100)

Thus, as demonstrated throughout this section (*Waste Pickers and Recycling*), the issue of the collection of recyclable materials is a paradox, as the aforementioned author reiterates,

since, although it is practiced by people who lack other alternatives of financial survival, it is essential for the maintenance of the productive cycle and as a mitigating measure of environmental impacts.

When dealing with Brazil, it is worth mentioning that the discussion on selective collection and screening of solid waste in cities has been appearing since 1980, however, the first records of this practice date only to the years 1985, in Niterói, and 1989, in Curitiba (DURAND; NEVES, 2019). The collection, as other authors and authors have argued, such as Braga, Lima and Maciel (2015), has a direct relationship with mass unemployment, which results from the crises of capitalism present in cities during the previous decades, such as the 1970s. In this sense, the working conditions of waste pickers are very tied to their needs for financial survival alternatives. These workers, who live on the margins of society, have lived even more on the sidelines in Brazil until 2010. It was only in that year that they had their work recognized through the aforementioned Policy and National Solid Waste Plan.

In view of this, Durand and Neves (2019) analyze the reality of waste pickers and their placements in society amid examples from three cities in different countries: Bogotá (Colombia), Lima (Peru) and Cascavel (Brazil). They argue that, as in Brazil, in the other two countries there is an attempt to regularize the waste picking service, which is tied to the market value of the collected material and later marketed.

According to Durand and Neves (2019), in Bogotá, there is an attempt to municipalize the service, whereby registered and formalized workers would receive a complementary amount of assistance, which would favor their search for formality. In Lima, there is no clear formalization of the service, only the follow-up. In Cascavel, there is a cooperative controlled by the municipal government that has about 80 people formalized, creating a competitive sphere with more than 800 workers who are in line to be hired. This reality creates a tense relationship between the formal and the formal workers, because the formal workers make the separation of the waste before reaching the cooperative, making materials more difficult to be marketed reach the possession of formal workers, directly interfering in the final revenue of each of the groups.

Durand and Neves (2019) point out that the attempts of the government to remove workers from the social margin still need to be rethought and adapted, in order to eliminate the contradictions and conflicts involved in this process.

Therefore, referring to examples aimed at Brazilian municipalities and the (non) participation of the State in the guarantee of the rights of these workers, Almeida (2017) traces the trajectories by which the struggle and resistance of waste pickers of recyclable

materials can be located in Campos de Goytacazes. The author's arguments point out, initially, that this practice was assumed by rural workers who migrated to the urban area after the reification of agricultural work of sugarcane cutting, where the need for human workforce due to mechanization was reduced, occurring a large migratory movement in the 1960s and 1970s.

With this reality of sugarcane farming, it was common for mills focused on this sector to also have greater control of the workers' workforce, since the majority were underqualified professionally and were in a vulnerable situation due to unemployment. Therefore, the overexploitation of workers who were previously dedicated to sugarcane farming is a real milestone in the sugar and alcohol industry, through the payment for productivity. These workers, as subjects little or not qualified and in vulnerable working conditions, when they were not connected to the sugar-alcohol industry, employed themselves in subaltern jobs, occupying irregular urban areas.

In the 1990s, a settlement called *the Promised Land was created*, where 250 families were relocated from their homes to a privately owned occupation. The settlement was located near the dump of the Industrial Development Company (CODIN) and, because of this, there was strong rejection of these families. The rejected houses were occupied by people who had a direct connection to the work of picking recyclable materials, who were in a condition of vulnerability and who were not connected to the formal labor market. A survey conducted by Almeida (2017) indicates that 75% of the workers who survived the CODIN dump were residents of this settlement.

In the 1990s, after the resumption of the Democratic Rule of Law in Brazil, the ills of the long period that "curtained" reality remained. A large mass of workers in poverty and unemployment became visible, given the investments concentrated in only a few regions of the country and the closure of some sugar cane mills, which caused extreme vulnerability to tens of thousands of workers in northern Rio de Janeiro.

The third phase identified by Almeida (2017) occurred in the 2000s, when the increases in the National Solid Waste Policy intensified the "importance" of solid waste recycling and many formal workers, still affected by the crises of the capitalist market in previous decades, joined the professional practice of waste picking. The author points out that the percentage of workers in the CODIN dump increased considerably until its closure. At a specific point, she also states that, while in the 1990s there were few workers who had never had other professional practices than the waste picking, in 2010 were about 60% of the workers who said the same, which reflects, in addition to the permanence in this work, the "renewal" of workers who, in general, are children of people who already collected.

The last phase, which marks the trajectories of waste pickers, was characterized by the closure of the CODIN dump in Campos de Goytacazes, and by the organization of three cooperatives of waste pickers in the city: Recycle Campos, Cata Sol and Nova Esperança. According to Almeida (2017), after the National Solid Waste Policy of 2010, about 200 municipalities in Brazil began to contract the service of these three cooperatives to perform the collection and referral service for recycling, to the detriment of large companies that constitute this oligopoly. This is an important milestone within the reality of these works, mainly due to the closure of dumps and the absence of initiatives specific to the municipal government of the cities, although there are still political contradictions intrinsic to the organization of these cooperatives.

The collection of recyclable materials is directly linked to the screening of solid waste and the return of "tailings" to the production cycle, bringing savings to the production process of industries, mitigating the situation of environmental pollution and generating employment, in the face of unemployment and vulnerability. According to Braga, Lima and Maciel (2015), Almeida (2017) and also Castro (2017), the fact that this sector appropriates the condition of economic vulnerability of individuals in unemployment and low degree of professional specialization is a subject widely addressed within the academic environment, especially in the last two decades, as shown by Schneider ¹⁴*et al.* (2017).

Schneider *et al.* (2017) argue, from a survey conducted in 2014 and published in 2017, that, mainly since 2009, there has been a significant increase in articles found on the subject. However, since the early 2000s, there have been publications. The authors claim that, of the 36 articles they have collected and cured, the vast majority (19 articles) deal with social inclusion. For them, this theme is the most important, given the situations in which waste pickers of recyclable materials are, which are of vulnerability and unhealthiness, which also contributes to the categories *health and ergonomics*, with respectively 4 and 1 articles also found by researchers in their search.

The increase in the production of articles on the subject, from 2010 onwards, has an explanation in the approval of the National Solid Waste Policy. According to Schneider *et al.* (2017),

Many articles have highlighted the importance of waste pickers' activity, which is fundamental for sustainable and increasingly relevant development, in the face of an exacerbated increase in consumption and, consequently, waste. However, the articles

¹⁴ This is a point of discussion, given the fact that, according to some authors and authors, such as Castro (2017), the capitalist system has a destructive and resource-depleting characteristic.

demonstrated that the situation of waste pickers is still extremely vulnerable and suffers from numerous needs, resulting in prejudice, marginalization and exclusion of such individuals from society. (SCHNEIDER *et al.* , 2017, p. 117)

As schneider *et al. highlights.* (2017), the recycling and work of waste pickers of recyclable materials have been closely addressed in the Brazilian academic-scientific scope. This reiterates the importance of analytical and critical studies on these themes.

The State, as demonstrated in the second section, has remained averse to the labor conditions necessary for these subjects, although much has been achieved in the field of social struggles, with the emergence of the MNCR and the direct relationship with the federal government in the era of former Presidents Luis Inácio Lula da Silva and Dilma Rousseff.

It is worth stating that case studies have a great importance in the scientific sphere, since, as some authors have demonstrated, although there are confluent points among the theme discussed, there are specificities that come from each cut of work performed by waste pickers of recyclable materials. Thus, this article demonstrates the importance of producing debates about the relationship between recycling and the work of waste pickers in Brazil.

Conclusion

This article sought to present a reflection on the positions occupied by the most vulnerable social subjects within the logic of capitalist production and the labor relations that permeate it, whether formal or formal. It was considered that these subjects are workers who have their lives marked by the overexploitation of their labor, with little financial return, and who are marginalized by society.

In this sense, the 22 curatorial texts on formal and informal work served, in some way, to demonstrate the existence of informal work as a reality very present in Brazil. In addition, examples of cooperatives and/or the work of picking up in a brief way stand out, which were used here to exemplify how the subjects appropriate *this locus* to survive in the midst of the stigmas of capital.

At first, waste from human consumption was not seen as insums with the possibility of generating profit for the productive system. However, capitalism, based on the current criticism of the depletion of natural *resources*, *has created ways to capitalize* on this tailings, making recycling a promising market and waste, commodities. In this sense, it is worth affirming that the remnants of production and consumption are an aggravation for the environment and, at the same time, an alternative of generating profit for companies.

Therefore, in addition to the waste returning transformed to the industry as raw material, an entire recycling economy is moved, intensifying, above all, the exploitation of subjects that make up the lowest echelon of the network. These subjects are involved in the practice of waste picking, which is one of the examples of these new labor relations driven by capitalism.

Finally, it is important to emphasize that recycling and collection play a fundamental role for the environment, even if they are reproduced the practices that end up reaffirming the exploitation of the population that performs them. This contributes to the invisibility and marginal position of waste pickers, who, when overexploited, suffer from low yields, as those who exploit them profit from the fruit of their labor.

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