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SOCIOECONOMIC PROFILE OF WASTE PICKERS: ENVIRONMENTAL ASSOCIATION OF WASTE PICKERS TO RECYCLE (AACR), MATO GROSSO, BRAZIL

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ABSTRACT

The manuscript aims to analyze the socioeconomic profile of the waste pickers of the Associação Ambiental Reciclar (AACR). The Association operates in the Nascentes do Pantanal Complex Consortium (CCNP). The research, of a qualitative and exploratory nature, was conducted in the AACR Association, comprising six municipalities. Interviews and semi-structured questionnaires were applied to 42 waste pickers and leaders of the association. Data collection took place between May and June 2024, after ethical approval, and included analyses on selective collection and socioeconomic profile. The study revealed that the association of waste pickers with AACR brought advantages, highlighting better working conditions, autonomy, and increased income by selling recyclable materials together. A positive impact on the financial and social conditions of waste pickers was observed, providing structural security and community support. However, challenges persist, such as work overload and inequality in collaboration among members. The survey highlighted the need for greater institutional support and recognition of the work of waste pickers, as well as improvements in environmental education and infrastructure, to further strengthen the benefits provided by the association.

Keywords: Environmental education. Selective Collection. Social inclusion.

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INTRODUCTION

Solid waste management has become a central issue in environmental policies in Brazil in recent decades. The National Solid Waste Policy (PNRS), instituted by Federal Law 12305/2010, represents a significant regulatory framework for the integrated and sustainable management of solid waste, consolidating principles such as shared responsibility for the life cycle of products and the social inclusion of recyclable material collectors (Brasil, 2010).

The PNRS established essential guidelines for selective collection, which involves the separation and correct disposal of urban solid waste (MSW). Part of the discarded waste gains economic value when reused, recycled or reused, reducing environmental impacts, saving resources and generating income for workers in the area (Correa et al., 2025; Melo, 2021).

The PNRS also encouraged the formation of solidarity economic enterprises and the hiring of organized waste pickers for selective collection, promoting their socioeconomic inclusion and valuing work (Melo, 2021). Inserted in a scenario of great social inequalities (De Sousa Rocha; De Oliveira Mattos; Frankenfeld, 2024), however, recognized as strategic allies, waste pickers contribute to environmental preservation by preventing recyclable materials from being discarded in landfills and by promoting the recycling cycle by collecting, separating, and selling recyclable materials, such as paper, plastic, metal, and glass, which are discarded by society (Boito; Flotow, 2023).

Government initiatives have facilitated the inclusion of waste pickers in selective collection programs, strengthening collaboration between waste pickers' organizations, public authorities and the recycling market (Bortoli, 2013). According to the Recycling Yearbook (2024), the number of waste pickers in Brazil is 3,028 enterprises, which add up to 70,608 waste pickers, made up mainly of women and from vulnerable socioeconomic contexts.

Studies such as those by Dias (2016) and Silva (2018) point out that waste pickers' organizations play a vital role in the recycling chain, not only for the work of collecting and sorting waste, but also for contributing to the social and economic inclusion of vulnerable populations. In this context, the study aimed to analyze the socioeconomic profile of waste pickers from the Associação Ambiental Reciclar (AACR). The Association operates in the Nascentes do Pantanal Complex Consortium (CCNP).

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The research is relevant due to the environmental, social, economic and educational importance of this action, especially in the Pantanal, one of the most biodiverse biomes on the planet, which demands effective solid waste management practices. AACR contributes to environmental conservation through selective collection, while supporting social inclusion and improving the working conditions and income of waste pickers, who often come from vulnerable contexts.

THEORETICAL FRAMEWORK

INTEGRATED SOLID WASTE MANAGEMENT

From the late 1980s, Brazil saw the emergence of the first cooperatives of waste pickers, driving the inclusion of these workers in municipal recycling systems during the 1990s. This movement was strengthened by the recognition of the profession in the Brazilian Classification of Occupations (CBO), a profession regulated in 2002, under number 5192-05, which facilitated the collection of data and the development of public policies more appropriate to its needs (Bouvier; Dias, 2021).

In 2001, with the foundation of the National Movement of Recyclable Material Collectors (MNCR), this organization was further consolidated. With the approval of the National Solid Waste Policy of 2010 (Law 12305/2010), it conferred legal recognition on waste pickers, highlighting their importance in the recycling chain (Bortoli, 2013). The Law establishes the prioritization of the participation and recognition of the fundamental commitment exercised by waste pickers in the management of solid waste in Brazil.

According to information from the National Movement of Recyclable Material Collectors, Brazil has about 800 thousand waste pickers. Despite formal recognition in environmental laws and policies about the importance of their work, most of these professionals face precarious and stigmatized working conditions (MNCR, 2020).

Data from the Recycling Yearbook (2024) shows that waste picker organizations in Brazil in 2019 were 1,829, and 3,028 in 2023, distributed in 1,722 municipalities, located in the 26 states and the Federal District. The total variation for the 2019-2023 period was 66%. However, there is no fully coincident geographic distribution between the location of organizations and the number of people. The Southeast Region has the largest number of waste pickers, with 30.7% of the total, followed by the South with 27.2%, the Northeast with 26.2%, the Midwest with 10.7% and the North with 5.2%.

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> The Northeast Region showed the highest growth in the mapping of organizations from 2019 to 2023, standing at a percentage of 101%. Next, the North Region showed a growth of 90%, followed by the South with 73%, the Midwest with 53% and the Southeast with 47% (Recycling Yearbook (2024, p. 36).

For Buque and Ribeiro (2014, p. 17), "[...] The selective collection of domestic solid waste with the participation of waste pickers has been presented, in developing countries, as an alternative to make municipal recycling programs viable". However, even with the large amount of recyclable products, waste pickers' enterprises depend on market values and the supply of materials directed to recycling, since most recyclables are considered a commodity, whose price is stipulated by the market.

More broadly, the labor situation of recyclable material collectors is worrisome, as their activities are unhealthy, exhausting and lack institutional support, in addition to having little or no technology to facilitate their operations. Thus, the collection, sorting, storage and commercialization of solid waste are carried out in a precarious way in organizations, such as cooperatives and associations.

According to Bouvier and Dias (2021), in Brazil, solid waste management, including services such as street sweeping, collection, disposal, treatment, and processing, is the responsibility of municipal governments. The municipal government is in charge of environmental management, with the objective of establishing, recovering, and maintaining the balance between nature and society (Leal; Sampaio, 2021).

According to Besen *et al.* (2014), in the last 20 years, there have been significant advances in public policy involving selective collection with the inclusion of waste pickers in the country, with objections to consolidating it as a sustainable model of solid waste management.

In order to discuss environmental policy at the municipal level, it is necessary to understand the process of decentralization of national public policies and the concept of environmental management at the local level. According to Souza (2006), public policy is defined as the sum of government activities that will produce specific effects in certain areas, acting or through delegations, influencing the lives of citizens. Barbieri (2016) describes environmental public policy as a set of objectives, guidelines and instruments of action that the government uses to generate desirable effects on the environment.

According to Fidelis (2020), few waste picker organizations have been able to achieve the objectives established by the National Solid Waste Policy, which include expanding income generation, ensuring adequate working conditions related to health,

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safety, and quality, in addition to professional recognition. Several challenges are observed in these organizations, such as precarious operating conditions, disorganization and lack of training among workers, unsatisfactory working conditions, deficiencies in the collection and sorting of materials, internal communication problems, inadequate understanding of the concept of cooperativism, and devaluation of recyclable materials. In addition, there is a lack of support from municipal governments, including compensation for environmental work carried out and tax incentives.

According to Correa, Sguarezi and Melo (2025, p. 5), investment in Environmental Education (EE) is essential to establish a policy that depends on the active participation of the population and the formation of a collective conscience. In these perspectives, it is notorious that selective collection is characterized as solidary, as well as environmental education is approached and implemented in a critical way by waste pickers, Correa, Sguarezi and Melo (2025, p. 5), "[...], to promote changes in reality, it is necessary for people to transform themselves and adopt new postures, since reflecting on the world requires a critical conscience".

METHODOLOGY

This is a qualitative research, exploratory and descriptive in nature, aiming to provide greater familiarity with the problem, with a view to making it more explicit, according to Fonseca (2002). The research was carried out in the AACR Association, represented by the six nuclei that are the municipalities of Araputanga, Curvelândia, Figueirópolis do Oeste, Lambari do Oeste, Reserva do Cabaçal and Rio Branco. Western Region of the State of Mato Grosso, with a total territorial area of 17,596km², located 310km from the capital Cuiabá, State of Mato Grosso (PRGIRSCCNP, 2014, p. 9) (Figure 1).

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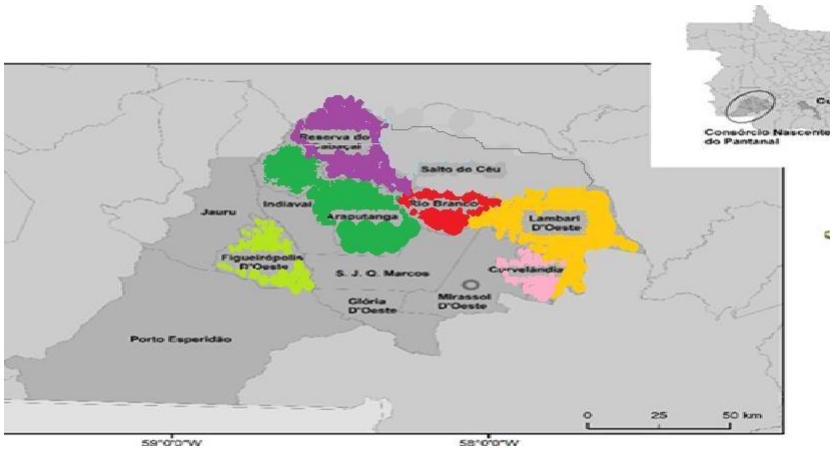
Figure 1 – Location map of the Environmental Association of Recycling Waste Pickers (AACR).



Source: Prepared by the authors (2025).

The study was conducted through interviews and semi-structured questionnaires, applied to waste pickers (individuals) and members of the presidency and council of the Environmental Association of Waste Pickers Reciclar (AACR) (legal entity).

Primary data were collected at two different times. First, an initial contact was made with the president of the AACR, by phone and WhatsApp, to obtain authorization to carry out the study. Then, the interviews and the application of semi-structured questionnaires were carried out in person at the respective AACR centers, involving 42 waste pickers (11 female and 31 male).

Data collection was carried out in May and June 2024 and everyone signed the Free and Informed Consent Form, and the project was approved by the CEP of Unemat on March 7, 2024, substantiated opinion number 6.691.61.

The data collection included information on the existence of selective collection, the year of start, partnerships with waste pickers' organizations, the modality (cooperative or association), number of members, social and economic profile of the waste pickers, legal partnership instruments, remuneration for the services provided, territorial coverage of the collection, average monthly quantity collected and environmental education actions.

The analysis of the data from the descriptive research with questionnaires involved organization, coding, qualitative analysis, data comparison, interpretation of results and presentation of conclusions. Each step was conducted in a systematic manner to ensure the validity and reliability of the results.

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RESULTS AND DISCUSSION

SOCIOECONOMIC PROFILE OF INDIVIDUAL WASTE PICKERS (PF)

Table 1 reveals a social overview of recyclable material collectors in the municipalities, with information on residence, gender, age, color/race, place of birth, education and family composition.

Table 1 – Social profile of Waste Pickers

Resident municipality	**Absolute value**	**%**
Araputanga	11	26%
Curvelândia	12	29%
Figueirópolis D' Oeste	4	10%
Lambari do Oeste	2	5%
Cabaçal Reserve	11	26%
White River	2	5%
Total	42	100%
Gender	**Absolute value**	**%**
Male	31	73,8%
Female	11	26,2%
Total	42	100%
Age	**absolute value**	**%**
18 to 25	9	21%
26 to 35	7	17%
36 to 45	7	17%
46 to 55	14	33%
56 to 65	4	10%
Over 65	0	0%
No Response	1	2%
Total	42	100%
Color/Race	**absolute value**	**%**
Yellow	1	2%
White	5	12%
Brown	28	67%
Black	7	17%
No Response	1	2%
Total	42	100%
Place of birth	**absolute value**	**%**
AL	1	2%
ES	2	5%
MA	1	2%
MG	3	7%
MS	2	5%
MT	24	57%
PARAGUAY	3	7%
PR	1	2%
RJ	1	2%
RO	1	2%
SP	3	7%
Total	42	100%
Schooling	**absolute value**	**%**
Illiterate (does not read or write)	5	12%
Functional Illiterate (writes the name, but does not read)	2	5%

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Literate (reads and writes)	6	14%
Incomplete Elementary School	8	19%
Complete Elementary School	6	14%
Incomplete High School	5	12%
Complete High School	9	21%
did not answer	1	2%
Total	42	100%
Number of family members	**absolute value**	**%**
1	6	14%
2	11	26%
3	4	10%
4	5	12%
5	7	17%
6	4	10%
No Response	5	12%
Total	42	100%

Source: Prepared by the authors (2025).

The data in Table 1 were collected among the residents of Araputanga, Curvelândia, Figueirópolis D'Oeste, Lambari do Oeste, Reserva do Cabaçal and Rio Branco, totaling 42 participants Most of the consortium collectors live in Curvelândia (29%), Araputanga (26%) and Reserva do Cabaçal (26%).

The age distribution of waste pickers shows a predominance The survey was composed of 73.8% male and 26.2% female, contrasting with data from the recycling yearbook (2024), where women represent 54.2% of waste picker organizations in Brazil and 59.6% in the State of Mato Grosso.

In the 46 to 55 age group, corresponding to 33% of the total, which indicates that the AACR attracts a predominantly mature population, possibly due to the lack of employment in the cities. On the other hand, the lower representation in the younger (18 to 25 years old, 21%) and more advanced (over 65 years old, 0%) age groups, it is believed that the labor market is still quite outdated, and recycling emerges as an opportunity to make up for the lack of a labor market. It was also noticed, through dialogue with the participants, that the work in recycling is rotating and complementary, especially for those who become unemployed, contributing to their income temporarily. These data converge with regions of Brazil where there is low employability, for example the Brazilian Northeast, according to data from the Recycling Yearbook (2024).

Regarding ethnic and racial composition, most participants identify themselves as brown (67%), followed by blacks (17%) and whites (12%) The inclusion of a specific category for yellows (2%) indicates racial diversity in the sample, reflecting possible socioeconomic and cultural nuances among the collectors. The predominance of people

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who identify themselves as brown can be attributed to the intense miscegenation that has occurred throughout the history of Brazil, especially in agricultural frontier regions such as Mato Grosso. This miscegenation is the result of the interaction between indigenous people, Africans and Europeans, who make up the state's population base.

Regarding the geographical distribution of birth, most of the waste pickers were born in Mato Grosso (57%), highlighting the predominance of local participants. Other Brazilian states and even Paraguay contribute with a smaller share in the origin of the interviewees, evidencing a possible regional migration in search of economic opportunities in the region.

The educational distribution of waste pickers shows that 35% have completed at least high school. However, a significant proportion has only incomplete primary education (19%) or is functionally illiterate (5%). This educational disparity can influence both employment opportunities, housing conditions, and livelihoods. According to Bouvier and Dias (202, p. 1), "more than 80 percent of waste pickers did not receive formal education beyond primary school. Obviously, the collection of recyclable materials offers an opportunity for people with low education."

When integrating the data on education and gender, it is noted that 45% of the women in the survey have completed or are completing high school, in contrast to only 29% of men. This educational gap may reflect greater access to or appreciation of education among women. However, a worrying fact is that 16% of men are illiterate, which limits their opportunities in the formal labor market. For these men, scavenging presents itself as a viable employment alternative, allowing them to generate income even without basic reading and writing skills.

In addition, the household composition of waste pickers shows an equitable distribution, with a slight majority reporting smaller families of 1 to 2 members (40%). This family structure can directly impact the per capita income and the livelihood capacity of the families of recyclable material collectors. Smaller families may have an easier time managing their limited resources, while those with more members may face additional challenges in ensuring that they are providing for all.

As for participation in social assistance programs, 55% of families are not registered in CadÚnico, another 38% do and 3% did not know how to answer, and the amount received from Bolsa Família varied between 250 and 1000.00 reais.

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This information highlights the importance of policies that promote education and literacy, especially among men, as well as initiatives that support waste pickers' families, considering their specific needs and family structure.

Table 2 presents data on the economic profile of recyclable material collectors, highlighting their functions in the association, time of operation, other activities developed, personal and family income, participation in social programs and means of transportation to work.

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Table 2 - Economic profile of Waste Pickers

Role in the Association	**Absolute value**	**%**
Recyclable Material Collector	16	38%
Supervisory Board	2	5%
Fiscal Council and collector	1	2%
Gardener	2	5%
Cleaning	1	2%
Driver	3	7%
Press Operator	4	10%
Other functions	4	10%
Echo Point Guard	2	5%
Street Cleaning	1	2%
Recyclable Material Picker	6	14%
Total	42	100%
Acting Time	**Absolute value**	**%**
Less than 1 year	17	40%
From 1.1 year to 3 years	15	36%
From 3.1 year to 5 years	6	14%
Over 5 years old	4	10%
Total	42	100%
Develops other activities	**Absolute value**	**%**
No	26	62%
Yes	11	26%
No Response	5	12%
Total	42	100%
Personal monthly income	**Absolute value**	**%**
From 1 to 2 minimum wages	20	48%
From 2 to 3 minimum wages	1	2%
From half to 1 minimum wage	21	50%
Total	42	100%
Monthly family income	**Absolute value**	**%**
From 1 to 2 minimum wages	25	60%
From 2 to 3 minimum wages	3	7%
From half to 1 minimum wage	14	33%
Total	42	100%
Beneficiary of Bolsa Família	**Absolute value**	**%**

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No	23	55%
No Response	3	7%
Yes	16	38%
Total	42	100%
Transportation to go to work	**Absolute value**	**%**
Afoot	17	40%
Car	4	10%
By bike	6	14%
Hitchhiking	3	7%
Bike	8	19%
Own transport of the association	3	7%
No Response	1	2%
Total	42	100%

Source: Prepared by the authors (2025).

Regarding the function and time of work as a collector in the association under study, the data indicate: 38% are collectors of Recyclable Material; 14% are selectors of Recyclable Material; 10% are machine operators; 10% perform other functions; 7% Driver; 5% are counselors; 5% guard the eco point; 2% are counselors and collectors; 4% work in street cleaning and 5% act as gardeners. According to Almeida *et al.* (2009, p. 2), "the lack of job opportunities has led many people in Brazil to become garbage collectors as a way to ensure survival". For the collectors, the advantages of being a member due to the physical structure to work (shed/roof, bathrooms, conveyor belt, elevator, rest times, receipt of Transportation Vouchers, maintenance of machines, drinking water).

The roles indicate a division of responsibilities that can support governance by ensuring that different aspects of daily operations are covered. Roles such as "Fiscal Council" are essential for financial oversight and accountability, while "Driver" and "Press Operator" will handle logistics and processing operations. In the context of governance, the functional structure presented meets the necessary basic requirements, providing a solid foundation for efficient and responsible operation. The fiscal council, although composed of a small number (5%), has a significant weight in governance, providing essential control and supervision to ensure the transparency and financial integrity of the enterprise.

The time of operation of the collectors varies from 1 day to 1 year and 4 months 47%; from 2 years to 4 years 43%; from 6 years to 12 years 10% It is noted that most of the waste pickers are recent in this category and have remained in their activities for a short time. Most waste pickers (62%) do not carry out activities other than the collection of recyclable materials However, a quarter of the participants (26%) mentioned carrying out other activities, which may represent an income diversification strategy to complement the gains obtained from recycling

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In terms of Personal and Family Monthly Income, 48% of waste pickers have a personal income between 1 and 2 minimum wages, while family income follows a similar pattern, with 60% of participants reporting a family income in this range. These figures highlight the importance of the activity of collecting recyclable materials as a main or significant source of livelihood for many families, although modest incomes still predominate.

Since 2019, the Recycling Yearbook Database has been monitoring the average monthly income of waste pickers in Brazil, offering a critical view of the economic conditions faced by these workers. Initially, there was an increase in the average income, from R$1,132.36 in 2019 to R$1,531.65 in 2021. However, this positive trend was interrupted in 2022, when income fell to R$1,372.52, with a further drop in 2023, resulting in an average of R$1,272.57, below the current minimum wage of R$1,320.00.

This regression in average income is worrying and can be attributed to economic factors, such as the instability in the prices of the main recyclable materials, such as plastic and paper/cardboard, as explained by the collectors. The volatility in these markets directly impacts the revenues of waste pickers' organizations, reflecting on workers' incomes. In addition, this situation highlights the economic vulnerability of waste pickers, who depend on commodity markets that are often unpredictable and subject to global fluctuations.

A significant number of waste pickers (38%) are beneficiaries of Bolsa Família, which indicates a considerable dependence on social programs to supplement family income. This highlights the economic vulnerability of part of the participants and the importance of social assistance programs in maintaining the standard of living. The dependence on such programs reflects the need for continuous support to ensure the survival of these families in the midst of an unstable economic scenario.

In addition, the majority (40%) walk to work, followed by the use of motorcycles (19%) and bicycles (14%). This transport profile reflects economic conditions and local infrastructure, directly influencing the accessibility and efficiency of the collection work. Most of the waste pickers who go on foot live close to the workplace, while others do not have means of transportation, but depend on work to support their families.

These results point to the urgent need for public policies and market strategies that stabilize the prices of recyclable materials and ensure fair remuneration for waste pickers. This can include diversifying recycled materials and adding value, strengthening local value

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chains, and implementing financial support programs, training for waste pickers, and fair remuneration for services provided.

Regarding housing conditions, it is observed that 52% of the collectors of recyclable materials live in rented or ceded properties. Specifically, out of a universe of 42 waste pickers analyzed, 16 occupy rented properties, implying that a significant portion of their monthly income is allocated to rent payments. Additionally, 5 waste pickers live in ceded properties, evidencing social support from family or friends, whether temporary or continuous. In contrast, 20 waste pickers own their own properties, giving them greater housing security compared to those who depend on renting or rented housing. Such data indicate the urgent need for public policies aimed at improving housing conditions and offering support to this vulnerable segment of the population.

The houses of the collectors have a variation in the number of rooms, ranging from 2 to 8. Most of these residences have tile roofing and all are built in masonry. The floors are predominantly ceramic tile or cement, with the exception of two houses, which have wooden floors, and one, which has dirt floors.

With regard to basic services, all waste pickers have access to electricity in their homes. However, 8 of them do not have internet. The main source of water supply for most homes is the water treatment company, although 11 of the waste pickers use wells or springs to meet this need.

All houses have sanitary facilities, but are not served by a sewage network; The drainage is done through septic tanks. A positive aspect highlighted is that the garbage collection service is available to all households. With this result, it is noted that the basic infrastructure is largely supplied, but improvements in connectivity and sanitation are necessary to raise the standard of living of these professionals to a more sustainable and safe level.

SELECTIVE COLLECTIVE AND THE WORK OF WASTE PICKERS IN THE AACR

Selective collection is a fundamental practice in solid waste management, and community collaboration is a pillar for the success of these initiatives. The adoption of intermunicipal consortia, such as the Nascente do Pantanal Complex Consortium, seeks to improve this management, even though it requires investments and strategic partnerships to ensure both sustainability and operational efficiency. Fundamental to improving the

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effectiveness of selective collection is the appreciation of waste pickers and the methodical integration of public policies.

The PNRS prioritizes a formal model of selective collection with remuneration of waste pickers organized in associations and cooperatives. However, practice reveals shortcomings. In the six municipalities where AACR formally operates, challenges remain related to education for cooperative and structural practices of selective collection.

According to Severo and Guimarães (2020), the legal formalization of Waste Pickers encourages municipal management to promote the formation of associations and cooperatives of recyclable waste pickers. However, according to Besen (2008), this model faces intrinsic challenges in adapting solidarity entrepreneurship in a capitalist global market. Barriers include the regulation of self-managed work, legal support for collective work, and simplification of administrative procedures, while emphasizing the crucial need for training and continuing education in cooperativism and environmental education.

In the case of the Association of Waste Pickers of Araputanga-MT (AACR), founded in 2020, AACR, under the leadership of Gean Carlos Pereira Duarte, is a practical example of legal compliance, having all the required licenses and contracts with the local government. Despite the difficulties, mainly related to environmental services, the AACR reflects the importance of training and cooperativism.

Access to training programs in associativism and environmental management reiterates its important role in training 42 members, configuring a structure that improves internal operational effectiveness and ensures a sustainable operation. According to the reports of the AACR board and council, the main activities developed by the waste pickers in the Association's centers are: selective collection, recycling, sorting, environmental education. The equipment needed for these activities, such as presses, trucks and scales, were provided by the government, by partners or acquired with its own resources. In empirical reality and most of the time the work performed by these environmental education workers is not paid, or is paid in a derisory way.

Portando Correa (2023, p. 65-66) argues: "Environmental education is not valued, or is little valued by the state, whether at the federal, state or municipal level. See the Integrated Solid Waste Management Plans, which give little or no importance to selective collection and much less to waste pickers".

As for Participatory management, AACR holds ordinary and extraordinary general assemblies, monthly with waste pickers, which demonstrates a commitment to participatory

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management. The association has a reasonable structure, with bathrooms and drinking fountains for its members. In addition, they develop awareness and environmental education actions, although, so far, these activities are unpaid.

According to the report of a counselor: "The members of the nucleus of Araputanga-MT, collaborate with a monthly fee of R$ 100.00 for food that is carried out in the kitchen of the association" (Int. 1).

This structure and organization not only strengthens AACR's ability to positively impact the environment, but also shows the potential to improve working conditions and increase

the social recognition of waste pickers. By ensuring food safety and improving working conditions, the association can not only increase the efficiency of recycling activities but also promote a more dignified and collaborative work environment. However, the lack of remuneration for environmental education activities highlights the need to seek new sources of funding or partnerships that value and sustain these fundamental initiatives.

The Association's productivity reveals a recycling productivity capacity that varies between 31 and 100 tons of recyclable materials per month, according to data provided by managers. The most frequently processed and traded materials are cardboard, colored plastics, and PET. The organization of work is structured in such a way that each nucleus carries out door-to-door and receives materials directly at the sorting centers designated for each nucleus.

The recyclable materials collected and processed by the collectors are sold to industries located both inside and outside the state of Mato Grosso. As reported by the president of AACR, the associated work model offers several important advantages, including improved working conditions and the appreciation of the role of waste pickers. However, specific information on the gross and net revenue of the enterprise was not made available, which limits a more in-depth financial analysis.

Through (MMA, 2023), the federal government has acted assertively to strengthen cooperatives and associations of collectors of reusable and recyclable materials, through actions coordinated by various agencies, integrating social, environmental, and economic initiatives. An example of this is the Payment for Environmental Services (PES). In Brazil, PES was institutionalized at the federal level by Law No. 14,119, of January 13, 2021, which establishes guidelines for the national policy of payment for environmental services.

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According to Silva *et al.* (2024), payment for environmental services (PES) emerges as an effective economic instrument, capable of valuing waste and promoting the social and productive inclusion of waste pickers, who are often marginalized and operating informally.

Municipalities can develop and regulate their own PES programs, adapting general guidelines established at the federal and state levels to meet their specific local needs. This flexibility allows municipalities to address environmental issues particular to their territory, encouraging sustainable practices and the conservation of natural resources on a local scale.

The field research highlights the limited knowledge of the managers about the PNRS, while the Director of the consortium demonstrates a broad technical and historical understanding of waste management; However, obstacles remain. This analysis shows the distance between reality and the ideal, highlighting the need for robust investments in environmental education, cooperativism, and infrastructure. It is imperative to change the management paradigm to an INTEGRATED Solid Waste Management.

PERCEPTIONS ABOUT THE ADVANTAGES AND DISADVANTAGES OF BEING ASSOCIATED WITH AN ORGANIZATION

According to reports from the collectors, 38 of them emphasized advantages in being members, only 4 of them chose not to answer. Based on this perspective, the collectors indicated in order of priority the advantages in descending order of priorities from 1 to 7 according to the point of view of each one (Table 3).

Table 3 - Priority advantages perceived by waste pickers when joining the Association/Cooperative

Order of Priorities	1st	2nd	Third	4th	5th	6th	7th	Didn't know how to say
Better working conditions: physical structure to work (shed/roof, bathrooms, conveyor belt, elevator, rest times, receipt of Transportation Voucher, maintenance of machines, drinking water).	14%	7%	5%	12%	5%	7%	40%	10%
No need to collect on the street, have material available on the shed.	33%	5%	10%	0%	7%	2%	19%	24%
In the association/cooperative the work less exhausting, it has more dignity.	31%	5%	12%	5%	0%	10%	24%	14%
Higher value in the sale of the separated material in large quantities, higher income, which does not occur when it sells directly to the middleman.	38%	5%	7%	0%	5%	5%	12%	29%
Appreciation of the work of the collector.	24%	17%	7%	5%	0%	5%	33%	10%
It doesn't exclude people who wouldn't get work Formalized.	38%	10%	2%	10%	0%	0%	29%	12%

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It does not have a Boss/Boss.	40%	0%	0%	0%	5%	2%	33%	19%
He sees no difference in the work of the association's waste picker and from the street.	33%	7%	2%	5%	2%	0%	31%	19%

Source: Prepared by the authors (2025).

The results of Table 3 indicate that for the members, not having to collect on the street and having material available in the shed is the benefit most valued by the collectors, with 33% of the interviewees placing it as the main priority (1st place). This indicates that, for many waste pickers, the safety of working in a more organized and structured place, away from the street, is of utmost importance. This benefit is also mentioned by 19% of respondents in 7th place, but with a considerable percentage of 24% indicating that they could not say their priority.

Another advantage pointed out is that not having a boss/boss, highlighted by 40% of respondents as the most important benefit (1st place), is also highly valued, reflecting a strong preference for autonomy at work. However, 33% indicated that this advantage is not a priority, ranking it as the 7th advantage. Another 19% did not know how to answer, which suggests that for some, the hierarchical structure is irrelevant or is not seen as a relevant benefit.

It was classified as 1st priority by 38% of the respondents the highest value in the sale of the material separated in large quantities, which results in a higher income. This priority reinforces the idea that the association or cooperative enables a greater and fairer financial gain compared to selling directly to middlemen, a practice that is likely to reduce waste pickers' profits.

Other relevant advantages such as valuing the work of the collector were classified as a priority by 24% of the participants, standing out as the 1st priority for a significant portion. This indicates that valuing the work done is an important benefit, both from a social and economic point of view.

The improvement in working conditions, which includes better structural conditions such as sheds, bathrooms, conveyor belts and machine maintenance, was perceived as relevant, although with a division in the responses. 14% placed it as the top priority, while 40% ranked it as the 7th priority, suggesting that for some, the physical structure of work is not the most important factor, but is still a significant benefit for a portion of waste pickers.

As for the disadvantages, it was mentioned by 70% of the members that there are some types of disadvantages in being part of the association/cooperative, such as work

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overload due to the lack of commitment of some members or the lack of collaboration/union; unequal work among members, some are working more than others, generating discomfort or frustration in relation to equity at work; lack of unity or collaboration; and lack of clarity in the orders, at this point, highlight the lack of clarity in the instructions as a negative factor, causing discomfort. And another 30% point out that there are no disadvantages.

Even with some disadvantages, the waste pickers say that there were changes in their lives after joining the Association, such as improved income was a common point in most of the answers, showing a significant financial and personal impact for most members.

And improvements in social and collective aspects. Learning to work collectively and valuing teamwork were also recurrent responses, suggesting that, although there are challenges, there is a strong social and professional learning provided by the association. This information can help the association/cooperative better understand the points of improvement needed and strengthen the positives that members experience.

During data collection with the waste pickers, three keywords were asked to represent different aspects of their work, covering the work itself, education, family, society, the environment and public agencies (Figure 2 of A - F).

Figure 2 - Connections between the work of waste pickers and their contexts: Education, Family, Society, Environment and Public Agencies

Source: Prepared by the authors (2025).

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Regarding work, the waste pickers highlighted terms such as "good", "commitment", "respect", "love" and "honesty", reflecting a vision of dedication and professional ethics. In the context between work and education, the most indicated words were "quality of life", "improvements", "work" and "change", evidencing the connection between education and the search for more dignified living conditions. Regarding the link between work and family, the collectors mentioned "life", "quality", "joy" and "improvements", emphasizing the importance of work for family well-being and stability.

Regarding the context between work and society, the most frequent words were "selective collection", "cleaning", "garbage", "separate" and "correctly", highlighting the contribution of waste pickers to the organization and sustainability of the community. In relation to the environment, the terms "environment", "environment", "cleanliness", "no" and "pollution" reflected the environmental awareness of the collectors, who see their work as a way to preserve the environment and combat pollution. Finally, with regard to work and public agencies, the terms "support", "no", "appreciation" and "health" were mentioned, evidencing the perception that waste pickers need greater recognition, institutional support and improvements in working and health conditions. These perceptions point to the multidimensionality of waste pickers' work, which involves not only recycling, but also issues of social and institutional well-being.

CONCLUSION

The socioeconomic profile of waste pickers in Mato Grosso reveals a predominance of mature men with low education, reflecting waste picking as an economic alternative in the face of few opportunities in the formal market. With a significant proportion identifying as brown and generally small families, many do not have access to social programs, emphasizing the crucial need for policies that improve education and offer specific socio-economic support. Waste picking emerges not only as a vital livelihood resource, but also as a means of inclusion for some of the region's most vulnerable groups.

Embedded in a diverse functional structure, waste pickers benefit from basic organizational support, but face significant challenges, such as volatility in the recyclables market and limited wages. Dependence on social aid, such as Bolsa Família, inefficiencies in transportation to work, and housing limitations reflect economic vulnerabilities and require public policies that offer stability and fair remuneration, as well as improvements in transportation and housing conditions. With housing that mostly lacks sewage, but has

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electricity and garbage collection, the situation emphasizes the urgency to improve internet and sanitation services, seeking to increase the quality of life of waste pickers and their families.

It is noted that for the collectors, the work is perceived as ethical and essential for society, with an emphasis on sustainability and environmental preservation. Education is seen as fundamental for improvements in living and working conditions, while the relationship with the family is guided by the search for quality of life and stability. In the social sphere, there is an appeal for greater recognition and respect, especially in relation to selective collection. As for public agencies, the need for support, appreciation and improvements in working and health conditions is evident.

The waste pickers associated with the association highlight advantages such as better working conditions, autonomy, and increased income. Despite challenges such as work overload, the association results in financial and social improvements. The perceptions collected also indicate the importance of their work for sustainability, and the need for greater institutional support, which can guide future improvements in the enterprise.

Selective collection requires community collaboration and sound policies to be effective. The Nascente do Pantanal Complex Consortium and the AACR in Araputanga-MT illustrate advances in the formalization and training of waste pickers, but still face structural and financial challenges.

Analyzing the profile of these workers and their organizations reveals the distance between the real and the ideal. There is still much to be done for the effective implementation of the PNRS/2010, and inevitably this involves strong investments in environmental education, training and education for cooperativism and also in infrastructure. It is necessary to change the paradigm from waste management to INTEGRATED Solid Waste Management.

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