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Artigo

Driving Local Action for the UN 2030 Agenda: Challenges in Rural Selective Waste Collection

Impulsionando Ações Locais para a Agenda 2030 da ONU: Desafios na Coleta Seletiva de Resíduos em Comunidades Rurais

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Abstract: The demands of industrial sectors have been growing since the Industrial Revolution due to population growth associated with the prevailing consumerist model, requiring increased product generation, which, in turn, results in a high percentage of solid waste. In Brazil, solid waste management (SWM) is precarious and fails to meet the Sustainable Development Goals (SDGs) outlined in the United Nations (UN) Agenda 2030. According to the Agenda, achieving the SDGs requires the implementation of SWM across all social spheres. Thus, the objective of this study was to implement selective waste collection in the community of Baixão dos Honoratos, municipality of São Gabriel, Bahia, contributing locally to achieving the SDGs. Ten families participated in the study, separating recyclable materials into categories at their homes, with weighing conducted every 15 days over a three-month period. On-site visits were conducted to enhance the dissemination of Environmental Education knowledge within the community. The most representative categories were organic waste (64.6 kg), rejects (44.3 kg), and plastics (34.1 kg). The initiative resulted in the establishment of local selective waste collection, accumulating three bags of recyclable materials that were delivered to a local association. Selective waste collection was carried out by most participants throughout the study, demonstrating that the incentives provided were effective in changing their habits. However, public sector involvement is essential to ensure the continuity of the positive results achieved in the community.

Keywords: environmental education. solid waste. sustainable development. Sustainable Development Goals (SDGs).

Resumo: As demandas dos setores industriais vêm crescendo desde a Revolução Industrial em função do aumento populacional associado ao modelo consumista vigente, requisitando maior geração de produtos que resulta, por sua vez, em grande percentual de resíduos sólidos. No Brasil, o gerenciamento de resíduos sólidos (GRS) apresenta-se de forma precária, não atendendo aos Objetivos de Desenvolvimento Sustentável (ODSs) incluídos na Agenda 2030 da Organização das Nações Unidas (ONU). De acordo com a Agenda, para alcançar os seus ODSs, é necessário que o GRS seja implementado em todas as instâncias sociais. Dessa forma, o objetivo deste estudo foi implementar a coleta seletiva na comunidade de Baixão dos Honoratos, município de São Gabriel, Bahia, contribuindo localmente para alcançar os ODSs. Dez famílias participaram do estudo e separaram os materiais recicláveis por categorias em suas residências, sendo realizada a pesagem a cada 15 dias por um período de três meses. Visitas *in loco* foram realizadas para ampliar a disseminação dos conhecimentos de Educação Ambiental na comunidade. As categorias de maior representatividade foram: orgânicos (64,6 kg), rejeitos (44,3 kg) e plásticos (34,1 kg). O trabalho resultou na implantação da coleta seletiva local, arrecadando três bags de materiais recicláveis destinadas a uma associação local. A coleta seletiva foi desenvolvida pela maioria dos participantes ao longo do estudo, evidenciando que os estímulos fornecidos foram eficazes no processo de mudança de hábito destes indivíduos, contudo, é essencial a contribuição do poder público no desenvolvimento das atividades para que ocorra a manutenção dos resultados positivos alcançados na comunidade.

Palavras-chave: desenvolvimento sustentável. Educação Ambiental. resíduos sólidos. Objetivos de Desenvolvimento Sustentável (ODS).

1 INTRODUCTION

The increase in waste generation, coupled with the excessive consumption of industrialized products, has been ongoing since the Industrial Revolution. These trends result from the unregulated growth of the global population, leading to greater environmental challenges (OLIVEIRA, 2022). Poor solid waste management poses alarming risks to both public health and environmental well-being. This situation requires coordinated action from public authorities, private sectors, and society to foster cognitive changes (SANTOS, COSTA and SANTOS, 2019).

In Brazil, concerns about environmental problems caused by improper waste disposal began in 2007 with the enactment of Law No. 11,445/2007, which established the National Sanitation Plan (PLANSAB). This plan defines basic sanitation and water supply and also includes urban cleaning and the proper management of solid waste (BRASIL, 2013). However, it was not until 2010 that Law No. 12,305 was implemented, creating the National Solid Waste Policy (PNRS). This policy outlines principles, objectives, and instruments, along with guidelines for integrated management and solid waste handling. It includes hazardous waste categories, establishes responsibilities for waste generators and public authorities, and provides applicable economic instruments (BRASIL, 2010).

The PNRS integrates the three pillars of sustainability social, economic, and environmental by assigning solid waste responsibility to citizens, municipalities, companies, and governments (REIS, FRIED and LOPES, 2017). Despite its guidelines for effective waste management, large-scale production persists. According to the Brazilian Association for Waste and the Environment (ABREMA) in its *Panorama of Solid Waste in Brazil 2024*, about 81 million tons of solid waste were disposed of in 2023, averaging 382 kg annually or 1.047 kg daily per person. The Northeast region ranked second in national waste generation, producing 20,011,742 tons (24.7% of Brazil's total), highlighting the link between waste generation, population density, and economic activity.

According to Bravo *et al.* (2018), proper solid waste disposal is linked to various factors, including societal awareness and habit changes, which can be facilitated through Environmental Education. Law No. 9,795 of April 27, 1999, which established the National Environmental Education Policy (PNEA), defines Environmental Education as the process through which individuals and communities develop social values, knowledge, skills, attitudes, and competencies aimed at conserving the environment a common good essential for quality of life and sustainability (BRASIL, 1999).

Mendes and Amorim (2019) highlight that selective waste collection is one of the mechanisms for improving solid waste management, and its practice is often associated with Environmental Education to ensure process efficiency. Through disseminating knowledge about Environmental Education practices, communities learn to understand product life cycles, recognize the importance of source separation, and appreciate the commercial value of recyclable materials. This can also support the livelihood of workers in the recycling sector.

In the community of Baixão dos Honoratos, located in the municipality of São Gabriel, Bahia, despite waste collection being carried out in 83.5% of households (IBGE, 2022), there is no adequate solid waste management. Materials produced are sent directly to the community landfill without specific separation of recyclables and subsequently burned. Thus, the community does not meet the Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda, as existing public policies are insufficient to promote the development of selective waste collection programs.

The 2030 Agenda outlines global sustainability initiatives, including 17 SDGs and 169 associated targets to be achieved by 2030. Specifically, SDG 11 addresses sustainable cities and communities, aligning closely with the PNRS through its use of Environmental Education as a tool. It promotes selective collection and reverse logistics programs, as well as the teaching of conscious consumption (TRIGO *et al.*, 2023). Given this context, this study aimed to pioneer the implementation of selective waste collection in the Baixão dos Honoratos community. The objective was to reduce the amount of solid waste destined for the landfill and subsequent burning, thereby contributing to the 2030 Agenda at the municipal level.

2 METHOD

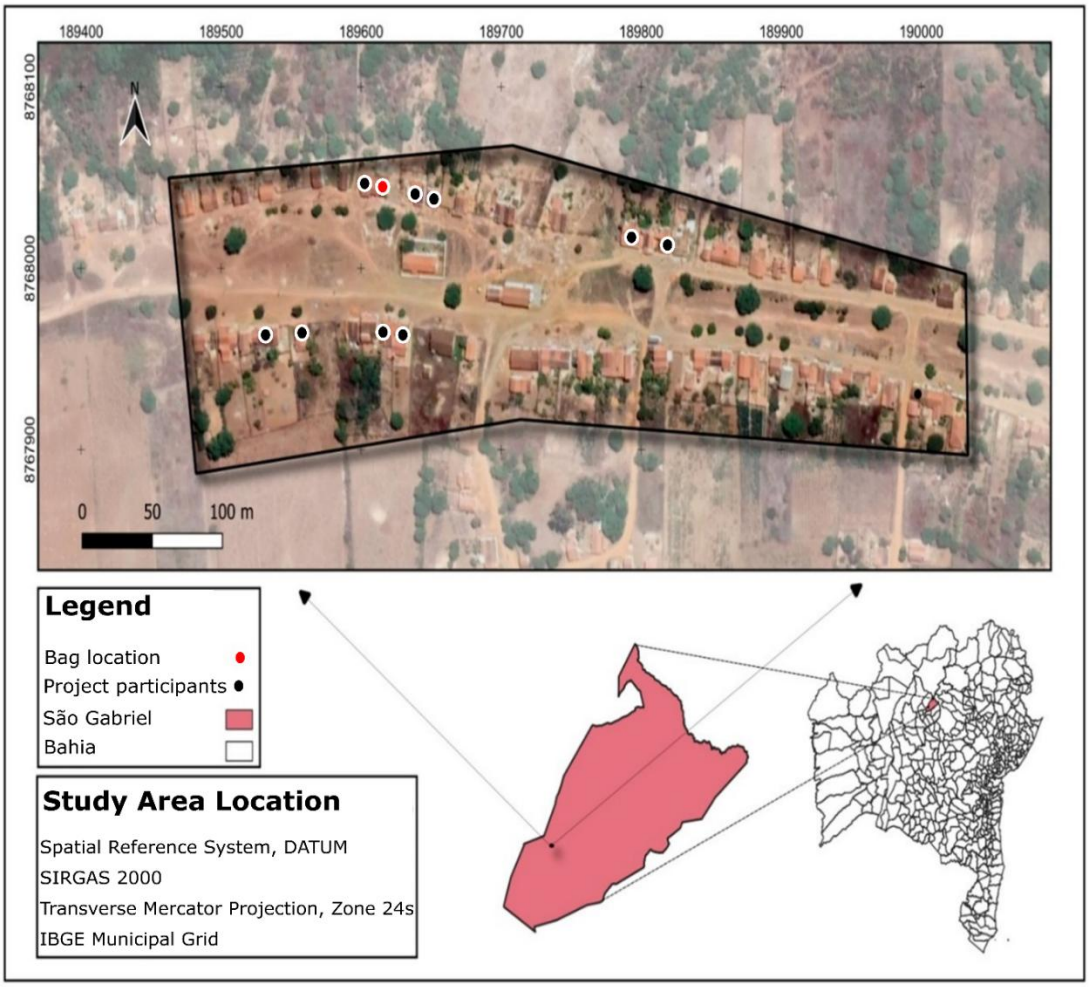
2.1 Characterization of the study area

The study area encompasses the community of Baixão dos Honoratos, located in the municipality of São Gabriel, Bahia, Northeast of Brazil (Figure 1). São Gabriel has a total area of 1,146.05 km² and a population of 18,600 inhabitants (IBGE, 2022). Most of the population is concentrated in the town center (11,721 individuals), while the remaining 6,879 residents are distributed across the 20 communities that make up the municipality, including Baixão dos Honoratos. This community is situated 12 km from the town center and is home to approximately 700 residents.

One of the main sources of income for the local population is hosting weekend festivities. The most renowned celebration is the Feast of Saint Sebastian, the community's patron saint, which is organized annually by the Catholic Church and lasts for 11 days in January. However, while these events generate income for the local population, they also lead to increased consumption of food and beverages, significantly contributing to the production of solid waste. Plastics, metals, and glass are the primary materials generated from these celebrations.

In the study community, cleaning and conventional waste collection are handled by the municipal government using an animal-drawn cart twice weekly, on Mondays and Fridays. The area lacks recycling points, public trash bins, and individuals engaged in waste picking or selling recyclables. On October 29, 2020, the São Francisco River Basin Committee (CBHSF) initiated the development of São Gabriel's Municipal Basic Sanitation Plan (PMSB), which was completed by the municipal government to provide urban and rural populations with water supply, sewage management, solid waste handling, and stormwater drainage services (CARVALHO, 2020).

Figure 1 – Identification of the households that participated in the selective collection and the installation site of the bag in the community of Baixão dos Honoratos, municipality of São Gabriel, Bahia. Source: Rocha (2022).



2.2 Data collection and analysis

To gather data and structure the process of implementing selective waste collection, ten families from the community of Baixão dos Honoratos were selected. Figure 1 shows the locations of the households that constituted the study sample, represented by black circles. Each household was classified as a sampling unit for data collection and analysis, and a diagnostic assessment was conducted to obtain information regarding the socioeconomic profile of the participants and other household members.

To implement selective waste collection, a segregation model was tested and tailored to the community's reality. After defining the model, a meeting was held to explain the study's importance, execution, and expected benefits for the community. Additionally, information was shared via WhatsApp to improve the collection process. The initiative ran from January to March 2023, with waste collected every 15 days from each household, totaling six sampling events over the three-month period.

2.3 Qualitative and quantitative characterization of solid waste

The entire selective collection process underwent on-site evaluation, and in an effort to enhance understanding and further encourage participating families, thematic posters and videos were created and disseminated through electronic means. For the final disposal of the solid waste collected after sample processing, a partnership was established with the Carcará Recycling Association, operating in the city of São Gabriel. During the qualitative analysis of the waste, personal protective equipment (PPE) was utilized to ensure the sanitary safety of those involved.

The material characterization was conducted by identifying each type of waste in accordance with NBR 10.004/2004 (ABNT, 2004). In this phase, the waste was categorized into six groups: organic matter, paper, plastic, metal, glass, and refuse. The plastic fraction was further divided into specific categories, including polyethylene terephthalate (PET), high-density polyethylene (HDPE), polyvinyl chloride (PVC), colored low-density polyethylene (LDPE), transparent low-density polyethylene (LDPE), polypropylene (PP), and others. For the glass category, bottles, jars for preserves, medicine containers, cosmetic bottles, and glasses were analyzed. The segregation of metals and paper included all classes commonly found in household waste.

The organic category encompassed all waste derived from food scraps, including fruit peels, eggshells, and pruning remnants. Items categorized as refuse included contaminated materials that hinder separation and render recyclable items unusable, such as fabric scraps and discarded clothing. To sort the categories, bags recovered from the analyzed material were used, reducing the need to purchase plastic bags and minimizing waste. After separation, the waste fractions were weighed and recorded for quantitative analysis.

For the quantitative characterization phase, we used a handheld digital hook scale with a maximum capacity of 50 kg. Given the relatively modest volume of waste, weighing was conducted throughout the entire sampling period. A tarp was utilized to evaluate and separate the waste, with each component being weighed individually and recorded in a spreadsheet. This process was repeated for each collection, with the values aggregated at the end of each session, both by household and by category.

During implementation, recyclable waste was stored in bulk bags with a capacity of up to 1,500 kilograms. To optimize logistics, these bags were placed in a covered area during the rainy season to prevent the materials from becoming wet, which could decrease their commercial value. The Carcará Recycling Association took responsibility for receiving the waste and ensuring environmentally appropriate disposal, which provided a source of income for its members.

3 RESULTS AND DISCUSSION

According to Costa (2014), every activity involves both positive and negative aspects. In the selective collection conducted within the community, one of the challenges encountered was the withdrawal of some participants from organizing waste for weighing. Of the 10 families initially participating in the study, four did not commit to completing the stages of waste processing. The reasons provided by these families included a lack of time to separate the waste due to being at work throughout the day and forgetting to set aside waste fractions for weighing. Consequently, six households continued participating in the study, encompassing a total of 21 participants. Table 1 presents the percentage distribution values for the initial 10 families, including the number of residents per household, gender, education level, income in monthly minimum wages, and occupation of study participants.

Regarding the final disposal of household waste and the estimated weekly generation, eight families (80%) disposed of their waste in the community dump, while 20% directed their waste to the dump and also resorted to burning it. Rezende *et al.* (2017), in a study on household waste disposal in Grajaú, Maranhão, reported that 33 participants disposed of their waste through municipal collection, which was subsequently deposited in the dump, while seven individuals burned their waste—a situation similar to that observed in the Baixão dos Honoratos community.

Regarding weekly household waste generation, families could not estimate the amount, citing a lack of understanding of how to measure their "trash." This highlights a gap in awareness and understanding of their waste production. Reis, Sêmedo and Gomes (2012) emphasize that information is the foundation of Environmental Education, enabling communities to engage with local issues and build environmental awareness. Therefore, investing in Environmental Education is crucial for the successful implementation of selective collection.

According to Corrêa *et al.* (2015), implementing selective waste collection requires several steps, the first being the residents' acceptance of participating in the activities. The second involves fostering a routine process for proper separation, maintaining waste in appropriate storage, and delivering it to voluntary collection points.

The separation methodology employed in this study was presented to participants dynamically to demonstrate that the process would be simple and that storage could utilize items typically deemed useless and discarded.

Table 1 – Socioeconomic characterization of families participating in the implementation of selective waste collection in Baixão dos Honoratos, São Gabriel, Bahia.

Category	**Quantity**	**Proportion (%)**
Nº of Residents per Household	**Nº of Households**	Proportion (%)
01 Resident	1	10%
02 Residents	1	10%
03 Residents	4	40%
04 Residents	2	20%
05 Residents	1	10%
06 Residents	1	10%
Gender of Residents	**Nº of Individuals**	**Proportion (%)**
Female	17	50%
Male	17	50%
Education Level	**Nº of Individuals**	**Proportion (%)**
Incomplete Elementary School	20	58,8%
Completed High School	8	23,5%
Incomplete Higher Education	4	11,7%
Completed Higher Education	2	23,5%
Income in Minimum Wages	**Nº of Households**	**Proportion (%)**
Less than one minimum wage	1	10%
One minimum wage	3	30%
One and a half minimum wages	3	30%
Two minimum wages	3	30%
Participants' Occupation	**Nº of Individuals**	**Proportion (%)**
Student	13	38%
Public Sector Employee	7	21%
Retired	3	9%
Unemployed	3	9%
Self-employed	6	17,6%
Other	2	5,8%

For the final disposal of collected materials, a partnership was formed with the Carcará Waste Pickers Association in São Gabriel. The association handled the collection, sorting, storage, and sale of plastics, metals, and paper. Plastics included PET containers, toys, jars, and bottles, while metals comprised aluminum cans, steel, nails, screws, wires, and items of iron, zinc, and bronze. Paper waste included newspapers, magazines, notebooks, wrapping paper, boxes, and cardboard. Glass, lacking a local market, and non-recyclables were sent to the dump, while organic waste was reused within the households.

The instruction process for participants was conducted through a meeting at the community's public school (Figure 2). It provided key information for the study's development, such as the definition of selective collection, the distinction between waste and solid residue, the separation and storage process, temporary disposal locations, the importance of the study for the community, and the role of waste pickers in managing waste and serving as effective agents in the recycling chain.

Figure 2 – Implementation process of selective collection in the community of Baixão dos Honoratos, São Gabriel, Bahia. A, B - Meeting with the families participating in the project; C - Child participant in the project (authorized by guardians) used as the cover for promotional videos; D, E, F - Sorting of waste by categories; G - Weighing of the waste; H, I - Bags filled with recyclable materials and transported to the waste pickers association.

In addition to study participants, the meeting included two environmental engineers and municipal government employees from São Gabriel, aiming to involve diverse societal sectors and enhance the dissemination of knowledge to raise community awareness. Simple language was used to ensure understanding, and interactive moments allowed participants to share experiences, including reports of improper waste handling, such as burning and street disposal, which spreads during rains and strong winds.

Bringhenti and Gunther (2011) stress the importance of marketing to promote selective collection projects and encourage their adoption. To engage families effectively, ten explanatory posters were created, complemented by videos to address limited literacy among participants. The videos served as user-friendly tools to reinforce waste separation practices and highlight the initiative's impact on reducing waste at the community dump. Ferreira and Limberger (2017) emphasize that videos effectively convey information dynamically, spark interest, and benefit both daily life and the environment.

The videos featured a seven-year-old community child, with parental consent, to foster emotional connection and community engagement. The child, already familiar with the topic through school, facilitated filming with their knowledge. Each 30-second video, tailored for WhatsApp stories, was also shared directly with families. Feedback from participants, other community members, and neighboring areas praised the initiative for promoting recycling and appreciated the child's involvement, making the content more relatable and understandable.

Table 2 presents the weight of biweekly collections from the six sample units that remained in the study, totaling 170.84 kg of solid waste, including recyclables and non-recyclables. Organic waste was the most

significant category, totaling 64.64 kg, including citrus peels, eggshells, coffee grounds, and waste from community festivities (2nd collection). Processed food scraps, vegetables, and non-citrus fruit peels were absent, as these are often repurposed as animal feed for pigs and chickens. Similar practices occur in Pranchita, Paraná, where rural households reuse organic waste for animal feed and fertilizer (ROCHA *et al.*, 2012). In Montes Claros, Minas Gerais, composting workshops have highlighted the value of these nutrients for food production (FREITAS *et al.*, 2019). Such initiatives could also be introduced in Baixão dos Honoratos through public programs.

Rejects constituted the second-largest category by weight (44.33 kg), with the collection on 15/01/2023 standing out (39.44%) due to heavy rainfall in the region during that period, which soaked a significant portion of the materials and hindered their separation. This issue is directly related to the community's habit of storing waste in plastic bags left in outdoor areas of residences, which are collected weekly over two days. This behavior underscores the slow pace of behavioral change among participants, demonstrating that selective collection activities need to be carried out over the medium to long term to achieve the desired effectiveness.

Table 2 – Weight in kilograms (kg) of solid waste over three months in the Baixão dos Honoratos Community, Municipality of São Gabriel, Bahia.

Sampling Unit / Day	Organic	Paper	Plastic	Glass	Metal	Reject
January 15, 2023						
Unit 1	0.310	0.840	1.080	-	-	1.830
Unit 2	-	0.660	0.385	-	0.230	2.835
Unit 3	2.115	0.175	0.675	0.210	0.065	1.245
Unit 4	2.895	0.735	0.500	-	0.520	0.960
Unit 5	-	0.360	2.500	1.770	0.290	3.915
Unit 6	1.015	0.275	0.329	-	-	0.895
Total (kg)	**6.33**	**3.045**	**5.469**	**1.98**	**1.105**	**11.68**
Percentage (%)	**21.37**	**10.28**	**18.47**	**6.68**	**3.37**	**39.44**
January 30, 2023						
Unit 1	2.045	-	0.620	0.430	0.065	0.935
Unit 2	-	-	0.180	-	-	0.920
Unit 3	2.300	1.070	0.580	0.665	0.075	2.540
Unit 4	-	-	-	-	-	-
Unit 5	1.590	-	1.140	1.345	0.450	1.920
Unit 6	10.51	0.185	0.880	-	-	0.700
Total (kg)	**16.44**	**1.255**	**3.40**	**2.44**	**0.59**	**7.015**
Percentage (%)	**52.79**	**4.03**	**10.91**	**7.83**	**1.89**	**22.52**
February 02, 2023						
Unit 1	1.800	0.040	0.950	0.825	0.060	-
Unit 2	-	-	-	-	-	-
Unit 3	1.370	0.310	1.620	-	0.065	4.515
Unit 4	2.445	0.760	1.435	0.430	-	0.925
Unit 5	0.690	0.375	2.690	0.165	-	1.775
Unit 6	1.190	-	0.495	-	0.270	0.325
Total (kg)	**7.49**	**1.48**	**7.19**	**1.42**	**0.39**	**7.54**
Percentage (%)	**29.36**	**5.81**	**28.18**	**5.56**	**1.52**	**29.55**
February 28, 2023						
Unit 1	0.730	0.070	0.220	0.225	-	0.151
Unit 2	0.435	0.110	0.595	-	0.030	1.020
Unit 3	1.165	0.110	1.425	0.450	0.045	1.125
Unit 4	0.820	0.140	0.595	-	0.050	-
Unit 5	4.710	0.810	1.805	-	0.035	1.475
Unit 6	-	-	0.335	-	0.415	-
Total (kg)	**7.86**	**1.24**	**4.97**	**0.67**	**0.57**	**3.77**
Percentage (%)	**41.19**	**6.49**	**26.04**	**3.51**	**3.99**	**19.75**
March 15, 2023						

Unit 1	0.460	0.545	0.830	0.270	0.025	0.915
Unit 2	0.130	0.285	0.040	-	-	0.195
Unit 3	0.765	1.420	0.315	0.485	0.235	3.050
Unit 4	4.540	0.345	1.185	-	0.045	-
Unit 5	3.140	0.085	1.680	-	0.050	2.190
Unit 6	2.585	1.965	1.530	0.500	0.195	0.525
Total (kg)	**11.62**	**4.65**	**5.58**	**1.25**	**0.55**	**6.87**
Percentage (%)	**38.09**	**15.24**	**18.29**	**4.09**	**1.80**	**22.52**

Cont. Table 1

Sampling Unit / Day	**Organic**	**Paper**	**Plastic**	**Glass**	**Metal**	**Reject**
March 30, 2023						
Unit 1	1.235	0.130	0.970	0.180	0.020	0.095
Unit 2	0.620	-	0.355	0.470	0.045	-
Unit 3	2.220	0.155	1.280	0.105	0.095	2.710
Unit 4	4.565	1.665	1.850	-	0.165	1.905
Unit 5	0.915	0.100	1.930	0.385	0.015	1.975
Unit 6	5.350	1.320	1.155	0.250	-	1.065
Total (kg)	**14.90**	**3.37**	**7.54**	**1.39**	**0.34**	**7.75**
Percentual (%)	**42.22**	**9.54**	**21.36**	**3.93**	**0.96**	**21.95**
Global total (kg)	**64.64**	**15.04**	**34.14**	**9.15**	**3.54**	**44.33**

Plastic waste amounted to 34.14 kg, making it the third-largest category. It included a large volume of plastic bags, product packaging (especially from basic grocery staples and cleaning products), and PET bottles. This outcome reflects the high consumption of industrialized goods in the community, as well as the festivities, which increased the concentration of people and, consequently, waste generation. A similar situation was observed in Agrovila de Mocambo do Ariri, Parintins, Amazonas, where a notable increase in plastic waste was associated with festive gatherings due to higher numbers of people in the rural area (OLIVEIRA and SANTOS, 2017).

Paper and glass made up small fractions, 15.04 kg and 9.15 kg, respectively, including notebook sheets, medicine boxes, cardboard, and glass shards. Metal was the least significant category (3.54 kg), likely due to the community's practice of selling aluminum items like soda cans, contributing to the circular economy. Aluminum recycling in Brazil generates around BRL 850 million annually (COSTA, 2022). This category also includes batteries, which can harm the environment and health if improperly disposed of. Establishing collection points at institutions, NGOs, or churches, as suggested by Tanaue, Bezerra, and Pisano (2015), should be recommended.

During the sorting process conducted by residents, even after initial instructions, some recyclable waste intended for the association was found in inappropriate containers. This highlights the need for ongoing instructions to ensure the proper execution of waste separation. According to Machado and Henkes (2016), an accurate diagnosis of solid waste ensures greater efficiency in selective collection processes. Additionally, as Corrêa *et al.* (2015) emphasize, clear guidance on the selective collection process is essential for better recyclables efficiency.

Throughout the weighing process, efforts were made to engage participating residents to gather feedback on their adaptation to the selective collection process. According to Rios and Tabak (2014), effective household waste management requires residents' commitment to adopting practices that benefit their environment. Toward the end of the study, the amount of materials collected decreased during weighing sessions, indicating the effectiveness of Environmental Education initiatives within the community. This was evidenced by increased resident participation in activities aimed at mitigating environmental problems associated with waste production.

At the end of activities in Baixão dos Honoratos, three bags of recyclables were delivered to the Carcará Association for commercialization (Figure 2). Meetings with families informed them that waste management would remain under the Municipal Government of São Gabriel and the Carcará Association. A study in Queimadas, Ceará, showed that while Environmental Education encouraged selective collection, the absence of continuous campaigns led residents to resume burning waste (Roland *et al.*, 2016). This underscores the need for ongoing support from trained personnel to sustain these efforts.

The pioneering development of selective collection in Baixão dos Honoratos yielded positive results. The collection of recyclable materials met the goals outlined in SDG 11, emphasizing the proper disposal of solid waste in cities and communities. Today, the study community understands the importance of selective collection,

recognizes the value of materials previously destined for landfills, and is aware of the municipal recycling group that processes and sells these materials. This initiative not only serves as a source of income for these individuals but also brings environmental and public health benefits.

4 CONCLUSIONS

The implementation of selective waste collection in the community of Baixão dos Honoratos faced several challenges, including the withdrawal of some participants and interference in the weighing of recyclable materials due to the rainy season. However, there were notable positive outcomes, such as the successful segregation of solid waste by most participating residents, which also engaged other individuals from the locality and neighboring communities. Environmental Education initiatives proved essential for carrying out the activities, resulting in the collection of three full bags of recyclable materials, which were delivered to a waste pickers' association, generating income for its members. In this context, public sector engagement in solid waste management becomes imperative, as it is essential for the continuity of the selective waste collection program in the village of Baixão dos Honoratos—an initiative that locally contributes to achieving the United Nations 2030 Agenda Sustainable Development Goals (SDGs).

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