

Factors that Cause Buildings to Not Support the Selective Collect in the Neighborhood Ponta Verde: Partial Results

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Abstract: In urban centers, the generation of solid waste and its inadequate disposal has become a problem that involves several aspects of society. In Maceió, capital of Alagoas/Brazil, there is no official permanent Environmental Education program that promotes the reduction of solid waste generation. In this sense, the expansion of the selective collection becomes urgent and necessary in Maceió. COOPVILA is today responsible for selective collection in the Ponta Verde neighborhood. This neighborhood has the highest family income (R \$ 9,026.87) among the neighborhoods along the seafront of the city and the second largest family income in Maceió. It also presents, among the neighborhoods serviced by COOPVILA, the greater density of multifamily buildings, being this type of dwelling the focus of the selective collection of said cooperative. The methodology used is action research, using as an instrument of information acquisition the questionnaire, also including the dissemination of the work of selective collection made by COOPVILA and the awareness of those involved in relation to participatory action on environmental conservation. The first results showed that the majority of those surveyed did not know the final destination of the waste produced by them, nor did they participate in any action aimed at performing a selective collection.

Key words: environmental education, cooperativism, selective collect

1. Introduction

Factors such as economic development, population growth, urbanization, the technological revolution, changes in the way of life and in the modes of production and consumption of the population have as a direct consequence, mainly in the big urban centers, the increase in the production of solid waste (litter), both in quantity and in diversity.

Most of the garbage collected in the country (50.8%) are sent to open air landfills. In this aspect, the Northeastern Region registers the highest proportion of waste disposal (89.3%) to the dumps [1].

The adoption of this practice is admittedly inadequate as the final destination of solid waste, since

it is known that in landfills the wastes in the raw state are deposited on the ground, without any preparation of the same, and also without any treatment of the liquid effluents derived from the decomposition of the garbage, like the leachate, that percolates the ground, contaminating the water table, and, therefore, the entire population that uses this water resource [2] (translated by us).

According to Vilanova Neta (2011) [2], the procedures that involve the collection and final disposal of solid waste are considered to be the most important in the process of collecting urban waste, since the weight of the collected material and the destination given to it interfere directly and indirectly in the daily life of society and also on the environment. Therefore, inadequate waste disposal causes negative

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social, environmental and economic impacts, damaging the population and the environment.

According to Kronemberger (2011) [3], inadequate disposal of solid waste is a major challenge to face, as improper waste disposal can lead to water and soil pollution, as well as health problems, especially for recyclable waste pickers. Moreover, according to Vilanova Neta [2], “landfills have a negative social aspect, since they are a source of income and food for a portion of the population that seeks food and recyclable materials for sale. This population suffers the most from the presence of vectors of disease and toxic substances present in the dump.”

According to the 2008 National Survey of Basic Sanitation carried out by the IBGE, the total volume of solid waste collected per day in Brazil was 183,488 tons, being the Northeast the second Region with the largest amount of garbage collected per day, presenting a daily total of 47,206 tons, losing only to the Southeast, with the collection of 68,181 tons per day [1].

As stated by Kronemberger (2011) [3],

one of the most viable solutions to reduce the volume of waste produced [...] is the selective waste collection. This proposition has been expanding in the country, increasing from 8.2% of the districts in 2000 to 17.9% in 2008, especially in the states of the South and Southeast. The percentage is still low, considering that among those who carry out the selective collection, only 38% do it in the entire district.

Considering the highlighted environmental problems and the irregularities with the final destination of the waste, there is a need to increase the selective collection as a way “to reduce part of the final destination of the waste in the environment, to generate new jobs for low skilled workers and generate profit” [4]. These actions promote positive social and economic impacts, since recycling moves between R\$ 1.4 billion and R\$ 3.3 billion per year [5], “for this reason, there is an increasing number of companies interested in working with various recyclable materials” [4]. In addition, in states such as Alagoas (96.1%) and

Maranhão (95.4%), which are nationally prominent due to the high percentage of districts in both high and very high levels of social vulnerability index [6], actions aimed at improving the life of groups that present low living conditions, such as garbage collectors, are urgent.

It is worth mentioning that one of the ways to promote the expansion of selective waste collection and recycling is to know the perception of people about the irregular disposal of solid waste, associated with actions directed to Environmental Education that involve work to raise awareness of the population to the problems generated by the inadequate disposal of garbage. In this process, one of the main obstacles to the implementation of environmentally correct attitudes is the lack of knowledge and experience of people in relation to these practices, and there is a need, during the process of implementing an Environmental Education work, to overcome obstacles as a way of establishing an environmentally sustainable behavior.

Thus, through the understanding of the perceptions of the target public, it is possible, based on the generated knowledge, to think about solutions and to take actions that positively influence the researched groups, helping in the promotion, more specifically in this case, of the increase of the selective collection among the research participants.

Maceió, as well as the other capitals of the country, also presents as one of the urban problems the increase in the production of garbage, in terms of both quantity and diversity.

Garbage collection in Maceió is made on a daily basis [7], and solid waste, generated by the population of the city, is deposited in a sanitary landfill, inaugurated in 2010, located in the Benedito Bentes neighborhood in the upper part of the city. Currently, according to Muttis and Pimentel (2014) [8], only 0.2% of the garbage collected in Maceió is destined for recycling. The reflection of this situation is that the trash that could be recycled ends up going to the landfill of Maceió, diminishing its useful life. Thus, it

becomes urgent to know the obstacles that impede the expansion of the selective collection in Maceió, as well as the action-taking that help to extend this collection of recyclable materials in the capital of Alagoas.

Prior to the effective operation of the Maceió sanitary landfill, garbage generated in the city was dumped in a garbage dump located in the neighborhood of Cruz das Almas. The old Maceió dump, like the others in the country, generated a high index of “[...] environmental deterioration, followed by a negative change in the native vegetation and a high contamination index of the soil, subsoil and groundwater [...] caused by the launch of the leachate” [9]. This location also contributed to the atmospheric pollution, since the constant fires, caused by the accumulation of gases, sent into the atmosphere, through the action of the winds, a significant amount of pollutants [9]

In the vicinity of the old Maceió dump, a housing nucleus was formed for residents in precarious housing situations, called Vila Emater, popularly known as the “favela do lixão”, which gave shelter to a population that lived in the collection and sale of waste from that location. This population that lived, and still lives, in the most extreme poverty, was subjected to an unhealthy work environment, in which they were subject to risks to their physical integrity and conditions of marginalization. With the prospect of construction of the Landfill in the capital of Alagoas and the deactivation of the dump, this population would end up losing its main means of sustenance, which was the removal of recyclable material for sale. Faced with the possibility of losing their major source of sustenance, some Vila Emater scavengers organized themselves to create a cooperative focused on the collection and sale of recyclable materials, the Vila Emater Cooperative (COOPVILA), founded in December 2008.

The selective collection in Maceió is carried out by COOPVILA and by two other cooperatives of scavengers, such as the Maceió Urban Garbage

Recyclers Cooperative (COOPLUM), created in 2001 and the Alagoas Collectors’ Cooperative (COOPREL), created in 2003, totaling three collectors’ cooperatives. Of these three, until May 2017, only COOPLUM and COOPREL have the support of the City Hall through the Superintendence of Urban Cleaning of Maceió (SLUM).

These cooperatives operate in specific areas: COOPLUM and COOPREL centralize their actions in the neighborhoods of Benedito Bentes, Antares, Cidade Universitária, Santa Lúcia, Tabuleiro and Serraria, all in the upper part of the city, while COOPVILA performs its work in the neighborhoods of Ponta Verde, Pajuçara and Jatiúca, located in the lower part of the city, and in the neighborhood of Farol located in the high part.

Currently, COOPVILA is comprised of 32 recyclable waste pickers, most of them women, all residents of Vila Emater, who previously worked collecting rubbish in the streets or in the old garbage dump in Maceió, which was decommissioned in April 2010. This institution is part of the National Movement of Scavengers and the Brazilian Forum of Solidarity Economy.

Among the several actions developed by COOPVILA is the implementation of the selective collection in condominiums, residences, educational institutions, commercial establishments and public agencies that accept to participate in the program of selective solidary collection. For those who accept to join this program, the cooperative presents the proposal for selective collection, offers technical support for the implementation of the separation of the solid waste generated, distributes explanatory material, signs for general waste bins, makes the selective collection twice a week, through the COOPVILA truck, in addition to visits to raise awareness among residents and constant monitoring of garbage separation.

Among the neighborhoods served by COOPVILA, Ponta Verde stands out because it has the largest family income (R\$ 9,026.87) among the city’s seafront

neighborhoods, it is also the second largest family income in Maceió, only behind the neighborhood of Jardim Petrópolis, which presents a Family Income of R\$ 10,645.88. In addition to the highlight for Family Income, it has the second largest absolute number of inhabitants (24,402), among the neighborhoods served by COOPVILA, only behind the neighborhood of Jatiúca, with 38,027 inhabitants [10].

In this context, this work, based on a research project supported by the Institutional Program of Scientific Initiation Scholarships (PIBIC), sought to know the current non-adherence factors of the Ponta Verde neighborhoods to the selective collection, as well as to promote environmental awareness and the expansion of COOPVILA partners, generating positive environmental, social and economic impacts and contributing to the reduction of waste generation.

2. Methodology

Initially a preliminary bibliographical review was carried out, this theoretical basis guides the empirical performance and the analysis of the information collected in the field through the application of a questionnaire, being the process of construction and execution of the investigation guided by action research. According to Oquist (1978) [11], cited by Mello (2012) [11],

[...] in action research, the term research refers to the production of knowledge and the term action, to an intentional modification of a given reality. Action research is the production of knowledge guided by practice, with the modification of a given reality occurring as part of the research process. In this method of research, knowledge is produced and reality is modified simultaneously, each occurring due to the other.

In this sense, for Thiollent (2007) [11], quoted by Mello (2012) [11], “in action research researchers play an active role in the equation of problems encountered, in the monitoring and evaluation of actions triggered by problems”.

Therefore, for a research to be qualified as action research, it is vital to implement an action by the people or groups involved in the problem under observation. Therefore, “in action research, researchers play an active role in the equation of problems encountered, in the monitoring and evaluation of actions triggered by problems” [11].

Therefore, this method was chosen because the problem posed, the non-adhesion of the buildings (vertical condominiums) of the Ponta Verde neighborhood to the selective collection of garbage, have a collective character of resolution and the implantation of an educational action from the environmental perspective, which has the participation of the researchers of said research project. In this sense, the methodology includes the dissemination of the selective collection work done by COOPVILA, the awareness of those involved and the incentive towards buildings with more than 2 floors located in the Ponta Verde neighborhood to join the selective collection.

In view of the foregoing, a consultation has been held with those responsible (trustees) for the management of vertical residential condominiums with more than 2 floors located in the Ponta Verde neighborhood. The choice of the aforementioned neighborhood was due to two factors, the first being the fact that it had the highest density of condominiums with the characteristics mentioned among the operating neighborhoods of COOPVILA, having, according to Cavalcante (2004) [12], 77% of multi-family buildings (apartment buildings), proportionally larger than those of single-family homes (23%). The second is related to the high Family Income of its inhabitants, since, according to Demajorovic, Bensen and Rathsam (2004) [13], there is a direct relationship between income and pollution, since people with higher purchasing power tend to consume more, generating more pollution. In this sense, “it may not be an exaggeration to say that the citizen is, above all, a consumer [...]. And the higher the income, the more the citizen will consume — and the more garbage he will generate” (Cozzetti,

(2001), cited by Firmino and Rivero (2005) [14]. Thus, there is a direct relationship between the purchasing power and consumption habits of an individual and the volume of waste generated by it.

3. Factors that Cause Buildings to Not Support the Selective Collection: Partial Results

The Ponta Verde neighborhood is composed of 36 streets and 488 buildings with more than 2 floors, of which 61 buildings have already been interviewed, with 36% of the buildings visited having 26 to 36 dwelling units.

As a partial result of the research, it was possible to detect that only 59% of the respondents stated that they knew the final destination of the solid waste generated in the city of Maceió, but when asked to say which the final destination was, only 37% cited Landfill. Others gave mixed answers, among them: 16% said that the garbage car carries it, 18% replied that the City Hall collects it (public services) and 13% did not know how to respond. The answers show that there is still a significant lack of knowledge about the fate of the solid waste produced by them.

When asked what selective collection was, everyone said they knew what it was, and the majority (72%) defined it as “the separation of recycled waste”. Still on the selective collection, the advantages of adopting this action were also asked, most (64%) cited the contribution to the environment and only 19% saw advantages in the social and economic area and 7% in the cultural sphere.

The majority of respondents (67%) said they knew about the existence of selective waste collection in the city of Maceió and 51% answered that they knew there were cooperatives that do the selective collection in the Ponta Verde neighborhood. Most condominiums (89%) have never participated in any action aimed at conducting a selective collection.

In that first moment, visits to buildings were important to promote an informative action regarding

selective collection and the existence of cooperatives operating in the Ponta Verde neighborhood, also as a result of this action, of the 61 buildings visited, 48 were predisposed to join the selective collection promoted by COOPVILA.

4. Conclusion

The lack of knowledge of the interviewees regarding the final destination of the waste produced by them, as well as the lack of knowledge of a good part of the interviewees about the existence of selective collection cooperatives in Maceió reinforces the need to create governmental educational campaigns to increase the reach of principles defended by Environmental Education, as well as to increase the participation of the population of the Ponta Verde neighborhood in the process of selective collection. Since there is no official permanent Environmental Education program in Maceió that promotes the reduction of solid waste generation.

The lack of commitment of the people, since most of the interviewees never participated in any action aimed at performing selective collection, shows that even the buildings that participate in the selective collection have not managed to sensitize the majority of its residents to awaken to the importance of selective collection and incorporate this habit into their lives. Although people realized the importance of selective collection, this perception was not able to generate change of attitude.

A disturbing fact raised by this work refers to the perception that people have about the selective collection process and about the people who are linked in the Ponta Verde neighborhood to this action, since a minority associated selective collection with social, economic or cultural benefits or improvements of those involved.

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