



**REPORT ON COMMUNICATION AND
AWARENESS ACTIONS FOR THE
MANAGEMENT OF SOLID WASTE IN
CURITIBA/PR, BRAZIL**



**CLIMATE &
CLEAN AIR
COALITION**
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS



This report is the result of the first activities carried out under the technical assistance project for the city of Curitiba, Brazil, implemented by the Brazilian Association of Public Cleansing and Waste Management Companies (ABRELPE) with the financial resources of the Climate and Clean Air Coalition and its Municipal Solid Waste Initiative (CCAC MSWI).

The Activity 2 of the project - Improvement of communication and awareness actions in the management of municipal solid waste aimed at the mitigation of SLCP¹ emissions aims, as one of its first results, to survey the campaigns and communication actions already carried out by Curitiba.

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Hereby the project team would like to register a special thank you for both staffs from MALP/SMMA and the SMCS for the provision of data and information for the purpose of the report.

¹ Short Lived Climate Pollutants (SLCP), for example methane and black carbon, which contribute to the worsening of global warming.

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1. CONTEXTUALIZATION

This report is part of the scope of Activity 2 "Development of reports to enhance communications and awareness towards a municipal solid waste (MSW) management system with SLCP emissions reduction". The objective was to analyze the past and current waste management communication and awareness programs of the city to evaluate their comprehensiveness, strengths and weaknesses. With this, the report assembles communication guidelines for the municipality, with a brief evaluation and recommendations.

1.1 Introduction – Brief overview of Curitiba

Curitiba is the capital of the State of Paraná, located in the south region of Brazil, and the eighth most populous municipality in the country, with 1,893,994 inhabitants (IBGE 2016), spread over a total area of 435 km² of territory.



Picture 1- Location of Curitiba in the State of Paraná, and (box upper right) location of Paraná in the Brazilian territory. Source: Wikimedia Commons

Founded in the middle of 1661 and independent 30 years later, Curitiba was the result of the exploration movements, from the Port of Paranaguá towards the interior of the territory, in search of mineral goods, such as gold.

Currently, the municipality is divided into 75 neighborhoods, grouped into ten administrative regions that decentralize some social, structural and leisure services to the citizen. The most populous and extensive neighborhood is the Industrial City of Curitiba (CIC). The primary sector is not relevant considering that, since the year 2000, Curitiba is almost fully urbanized. The secondary sector is home to multinational and national industries in various segments such as food, metallurgy, automotive, chemical, pharmaceutical and nonmetals. However, it is the tertiary sector that fosters the city's Gross Domestic Product (GDP), both with trade and microenterprises.

The Human Development Index (IDH) of the municipality is one of the ten largest in Brazil, reaching 0.823 as an average of education, longevity and income rates; the country's average is 0.727. Another prominent position occupied by the municipality is the urban wellbeing: it is the third Brazilian capital with better situation.

But it is for its achievements in urban planning integrated to the concern with environmental and mobility issues that Curitiba is internationally recognized:

- *There are 64.5m² of green areas for each inhabitant - almost double recommended by the World Health Organization, of 36m²/inhabitant;*
- *Universalized basic sanitation, placing the municipality at the top of the Brazilian ranking;*
- *Pioneer of the bus rapid transit (BRT) system, started in the 1970s and until now reference to cities around the world. The public transport service is thus integrated into the road system and land use, formed by express lines, neighborhoods connection and direct lines;*
- *In the MSW management sector, it has separate collection of dry recyclables from households since 1989, either door to door or by food exchange schemes, transportation vouchers, among other benefits.*

And is in the last item that relies the main motivation of this report: not by the vanguard of the separate collection initiative that is recognized and internationally respected, which timeline can be observed in Figure 2, but by the results achieved by the municipality over the last years, reflecting the low rate of recyclability of materials segregated at source when they arrive at sorting centers.

The information obtained in the reports provided by the Public Cleaning Department of the Municipal Secretary of Environment (MALP/SMMA), by the professionals of the sorting units and even a quick search for news, indicates a level of impurities of approximately 50%. In other words, half of the collected dry recyclables that goes to the sorting centers has its final destination at the sanitary landfill.

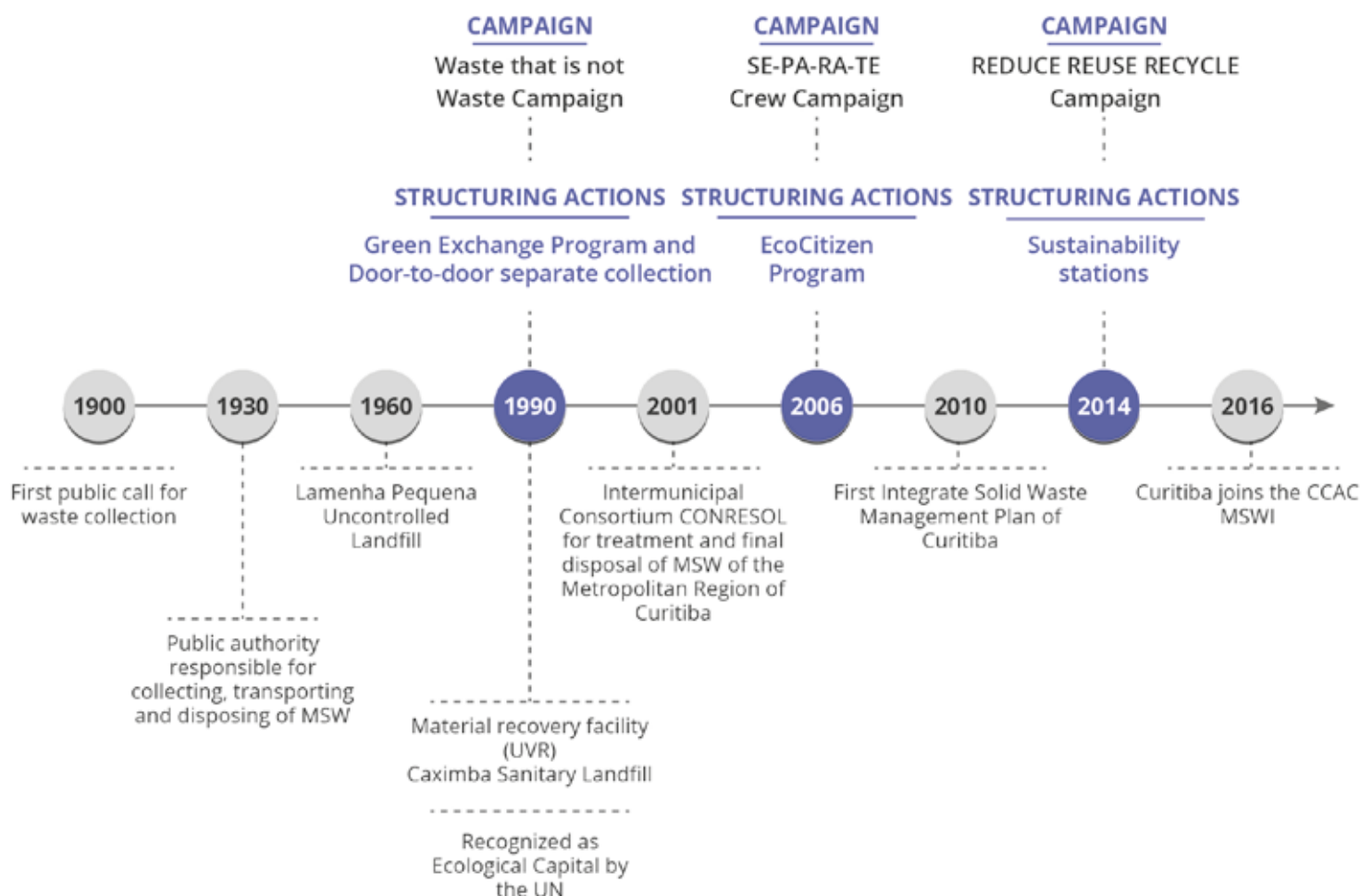
The search for factors that lead to this low rate of recyclability did not focus on the different services offered by the municipality for the dry recyclables, such as the door-to-door collection of the Waste that is not Waste Program, the Green Exchange program, or the Sustainability Stations for voluntary delivery by citizens. The scope of research carried out by the project team and its consultants was the way the municipality communicates and sensitizes the population about these services - what is necessary to separate at source, the importance/impact of recycling, the operation and routine of mentioned services and the results achieved.

² According to the website Atlas do Desenvolvimento Humano no Brasil: www.atlasbrasil.org.br

³ According to the website Observatório das Metrópoles for 2016: observatoriodasmetroplites.net

The results obtained through consultations with municipal authorities and researches on the internet are described as follows in this document and can be broadly divided into following topics:

- The identification of the **actors** and description of the organizational charts and attributions on the practice of communication in the management of MSW in MALP/SMMA and SMCS;
- The **tools** used by the municipality: from campaigns designed for specific purposes about MSW management, conduction of customer satisfaction surveys, to dialogue with the population in social media;
- The **impact of the communication** identified in the MSW management planning and in the results achieved by the services offered by the municipality for the dry recyclables;
- Consultants' opinion of what has already been done by Curitiba and **brief recommendations** on what can be improved.



Picture 2- Historical flow chart of solid waste management in Curitiba, Brazil.

2. THE LOCAL ACTORS INVOLVED IN COMMUNICATION FOR MSW MANAGEMENT

The research carried out under the "pillar" of communication of the CCAC/ABRELPE technical assistance project for Curitiba identified two municipal secretariats that are responsible for the communication and MSW management:

- *the Environment (SMMA) and*
- *the Social Communication (SMCS).*

While one holds the technical and legal responsibility for MSW, the other transforms the data in information to be communicated to the population, as it does with all other issues from the municipality. Both are briefly described below.

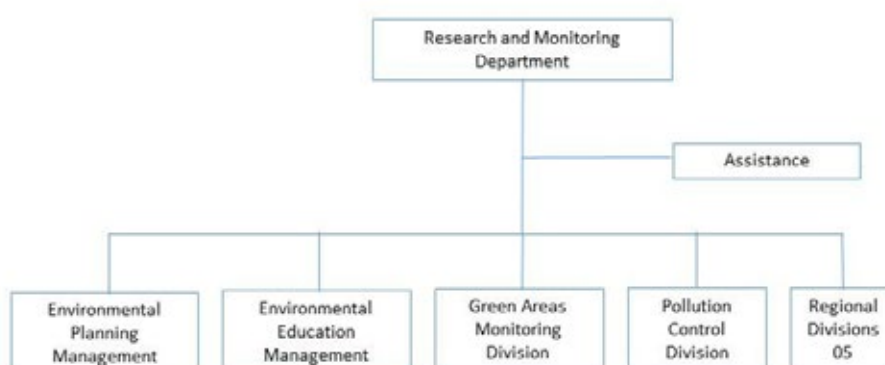
2.1 Municipal Secretary of Environment (SMMA)

The SMMA, established in 1986 by the Municipal Law 6,817/86, is responsible for MSW management in Curitiba being in compliance with the Federal Law 12,305/2010 (National Solid Waste Policy); the SMMA has also governance on the following issues:

- *Management, maintenance and preservation of parks, squares and gardens, municipal cemeteries;*
- *Development and conservation of leisure areas;*
- *Performance of survey and registration of green areas;*
- *Controlling and monitoring of urban natural reserves;*
- *Management, maintenance and preservation of the Zoo;*
- *Development of scientific research related to fauna and flora;*
- *Controlling of environmental pollution.*

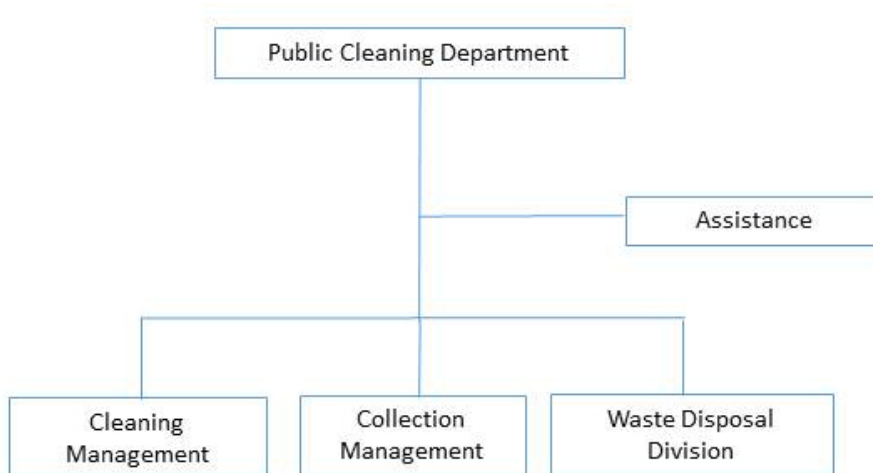
The SMMA structure comprises two departments that manage municipal solid waste: the Research and Monitoring Department (Picture 3) and the Public Cleaning Department -MALP (Picture 4).

The first performs preventive environmental control, through the environmental licensing of potentially polluting activities, or corrective control through the inspection and application of penalties foreseen in the environmental legislation; therefore, supervises the inadequate disposal of waste of any kind. It is also the responsibility of this department, through the Environmental Education Management, the development of actions to raise awareness and popular mobilization for the programs developed by SMMA, including the waste issue.



Picture 3- Organizational chart of the Research and Monitoring Department. Source: SMMA, 2013.

The MALP, the focal point of this project, performs the cleaning services directly, through its own or indirect execution through the contracting of services, being the responsibility of this department to manage and supervise the services performed, as well as its data and information.

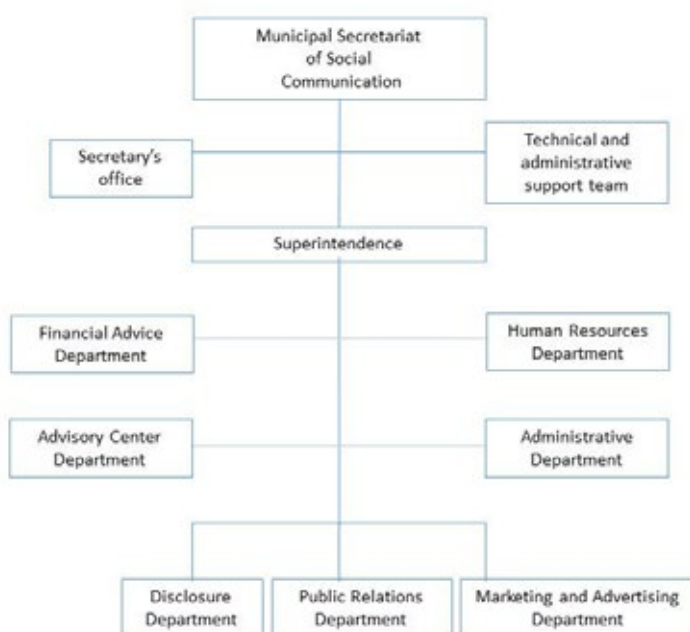


Picture 4- Organizational chart of MALP. Source: SMMA, 2013.

2.2 Municipal Secretary of Social Communication (SMCS)

Also created in 1986, the SMCS has a mission to work in permanent synergy with the offices of the Mayor and Vice Mayor, secretaries and agencies to better disseminate to the population, through journalism and advertising, relevant actions of the municipal administration, contributing to the reciprocal approximation between the Municipal Executive Power and the community².

According to the information obtained directly from the SMCS, Disclosure and Marketing departments have more contact with issues related to MSW management, such as collection and cleaning (Picture 5); in the Disclosure department, through the production of content, like materials and releases, for the communication vehicles: website, social media. At the Marketing, campaigns are developed for the population.



Picture 5- Organizational chart of SMCS. Source: communication via email, 2017.

² According to the text of the institutional website of the Municipality of Curitiba: www.curitiba.pr.gov.br

For the purpose of this report, SMCS has become an important point of contact for the correct understanding of how MSW management data becomes important information to be communicated to the population and other solid waste generators in the municipality.

The two departments designated as responsible for instrumentalizing MSW data have different attributions already described, but it is important to add that the Municipal Secretary of Government manages the requests received by the service center and transmits them to SMCS: the 156 telephone channel, the online channel and the control of the service requests register, complaints and compliments, which, together with the other communication tools for MSW management in Curitiba, are described in the next chapter.

3. COMMUNICATION TOOLS

The project team decided first that only the municipality's campaigns focusing on the separate collection of the dry recyclable fraction of the MSW would be object of description and analysis, due to the low separate collection rate that has been registered by the municipality. Although it is only one of the many aspects of the public cleaning sector, separate collection has strong environmental and social public appeal because it links the citizens to recycling issues and has great potential to provide the elements foreseen by this report previously explained.

However, the contact with the MALP/SMMA and SMCS teams and the surveys carried out on the internet increased the team's vision about the initiatives of communication in connection with recycling activities in Curitiba; as a follow up, the project team began to look at the other communication and awareness actions carried out by the municipality, such as:

- *satisfaction surveys,*
- *the 156 telephone channel,*
- *contacts via website and social media.*

As the next pages show, analyzing these tools allows to more clearly observe the impact of the direct interaction of the municipality with the citizen, the language used when talking about MSW and the behavior of both local government and population sides in certain circumstances.

3.1 The campaigns

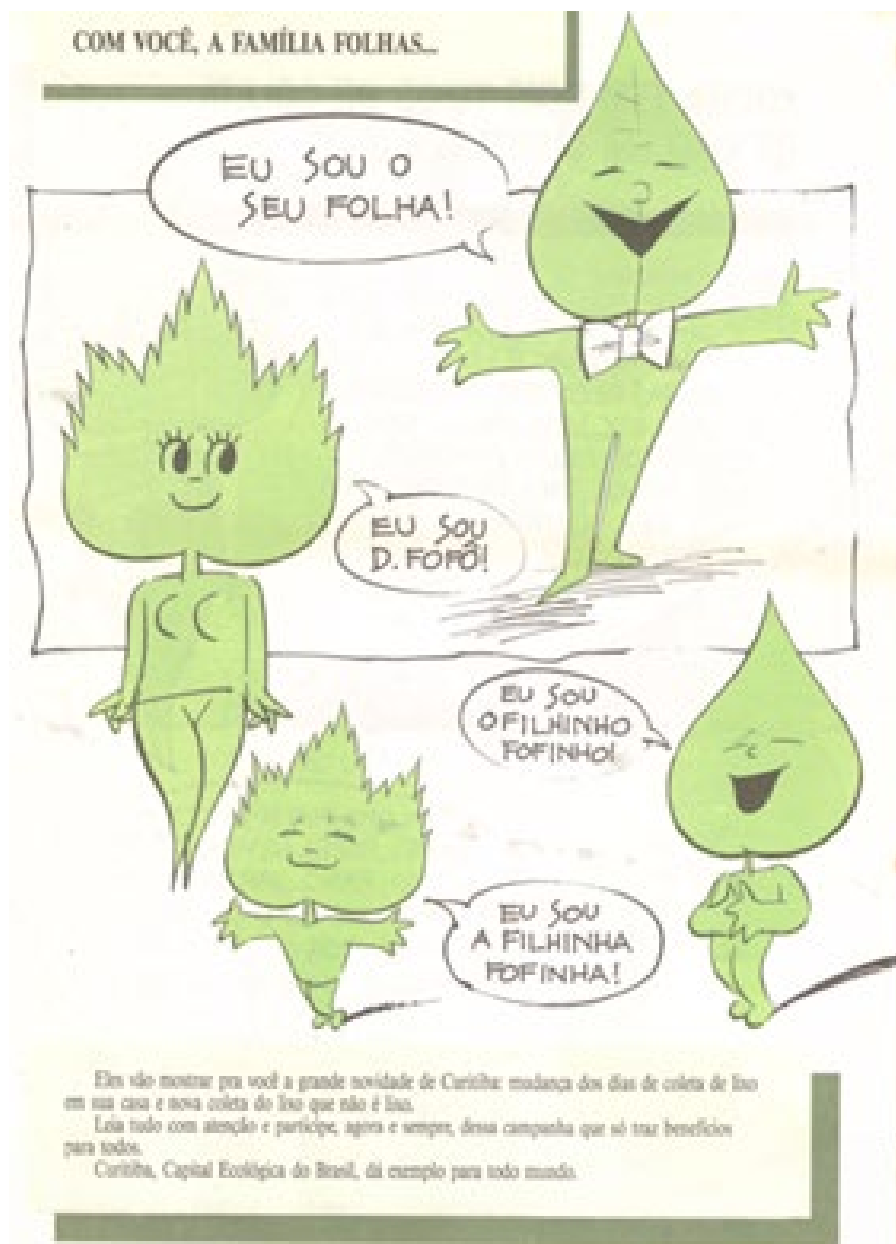
Since 1989, when the door-to-door separate collection service for the dry recyclables from households in Curitiba was started, three public campaigns were developed:

— Lixo que não é Lixo - LQNL (Waste that is not Waste)

This campaign dates back to 1989 and represented the milestone of the startup of a door-to-door scheme for separate collection in the city; the campaign was part of a larger set of action addressing separate collection and recycling, that include:

- *Establishment of recycling facilities such as a sorting plant;*
- *The inception of the voluntary delivery of waste for exchange for food or other resources.*

The first concepts about solid waste and the importance of a clean city were addressed in this first campaign; in other words, the message of the communication went beyond only the dry fraction object of the collection.



Picture 6 - Booklet of the "Leaves Family" distributed for dissemination of the Waste that is not Waste campaign (1989).

The slogan of the campaign was “Waste that is not Waste does not go to the trash bin: se-pa-ra-te”, with characters that were part of the “Leaves Family”, made up of a couple and two children. Its purpose was to guide the population in the source separation of the dry recyclable fraction from the "trash" - still, innovative for the time. The campaign was broadcasted on television and radio spots, street furniture, newspaper and magazine ads, busdoor and street posters, booklets and folders, as well as meetings and direct approach with the population.



Picture 7- Example of application of "Leaves Family" in urban furniture.

As mentioned, the campaign initiated the first structuring actions: door-to-door separate collection of dry recyclables and a voluntary delivery program, which in the early years was rewarded with transportation and non-perishable food. These actions exist up to the present: Waste that is not Waste (LQNL) is the name of the standard separate collection program throughout the municipality, and it includes also the food for waste initiative named “Green Exchange”³.

In the 1990s, the first sorting plant was established in the Campo Magro neighborhood, the Material Recovery Facility (UVR), which is administered by the Pro-Citizenship Institute (IPCC); part of the waste collected by the LQNL and by the Green Exchange initiative is sent to the UVR and the revenues from the commercialization of the materials are invested on social projects in Curitiba and on the payment of IPCC employees.

In conversations with members of the MALP/SMMA and SMCS teams, everyone remembers positively the Leaves Family campaign, and how it was the "seed" for a new behavior of the population in relation to what was until then trash: to separate what can be recovered and become resources for the industry through recycling.

³ Exchange initiative of dry recyclables and used vegetable oils for fresh food has been consolidated under the name of Green Exchange, that happens in 100 different spots of Curitiba.

— Turma do SE-PA-RE (SE-PA-RA-TE CREW)



Picture 8 - SE-PA-RA-TE CREW campaign leaflet.

The municipality's new campaign arose in 2006 in response to the successive low rates registered on the dry recyclables separate collection. This "reinforcement" of the LQNL program brought new characters, each representing one of the materials commonly generated in the households: Vidroaldo (representing glass), Plastilde (plastic), Ed Metal (metal) and Papelucho (paper/cardboard). The main objective of this new campaign was to stimulate the separation at source in houses and commercial establishments of the materials represented by the characters - and consequent valorization of recycling as a way of environmental conservation of natural resources.



Picture 9 - Example of application of the SE-PA-RA-TE Crew truck campaign.

Similar to what happened 17 years earlier, the SE-PA-RA-TE CREW campaign was followed by a new structuring action: the launch of the EcoCitizen program, which aims to formalize and improve the working conditions of waste pickers through the provision of proper physical structure for segregation, training to build capacity on administrative issues and integration into the LQNL program. In other words, some associations, cooperatives and other small business, through selection process, become part of the formal system and receive part of the volume collected by the municipality in the door-to-door collection scheme and in the Green Exchange.

— REDUZA REUTILIZE RECICLE (REDUCE REUCE RECYCLE)



Picture 10 - REDUCE REUSE RECYCLE campaign booklet, with the characters Dr. Sigmundo and his "patients".

In the period from 2006 to 2013, the volume of recyclables collected increased vertiginously and almost disproportionately compared to the mixed waste collected and the population growth rate of Curitiba, of 3,6% in the same period. What can be seen by some as a positive effect of the previous campaigns, in fact became a matter of concern because it did not necessarily result in an acceptable quality of waste collected separately, hence affecting the possibilities of effective recycling.

Thus, in order to sensitize the population about conscious consumption and the continued need for good segregation at source, the campaign was launched in 2014 with the slogan "Reduce, reuse, recycle, do your part". The character that names the campaign is Dr. Sigmundo, the Earth planet featured as a psychoanalyst who attends some waste types as "patients" in his office: the last slice of bread left in the package, a bottle of glass of grape juice who wants to have new use, a string bean that protects their "children" in a styrofoam and plastic-film packaging, among others.



Picture 11- Example of application of REDUCE REUSE RECYCLE campaign in collection truck.

Unlike previous campaigns, Dr. Sigmundo had the advantage of using social media extensively to broadcast the target messages of the campaign through "advices" of a psychoanalyst, such as conscious consumption and reuse of waste. The virtual environment, however, did not completely replaced the distribution of leaflets, placards and street posters.

The Sustainability Stations, bring-banks for the voluntary delivery of dry recyclables, were opened along with this campaign, therefore, another structural action added to the set of services offered by the municipality to divert the dry recyclables from disposal as MSW.

The innovative factor – compared to previous initiatives - is the possibility for households to deliver at some of the Sustainability Stations (called type 2) a limited amount of green waste (from small pruning, grass and leaves) and construction and demolition waste. Some specific collection of healthcare waste and electronic wastes were also started under the slogan of the campaign.

SUMMARY TABLE OF THE MSW MANAGEMENT CAMPAIGNS IN CURITIBA

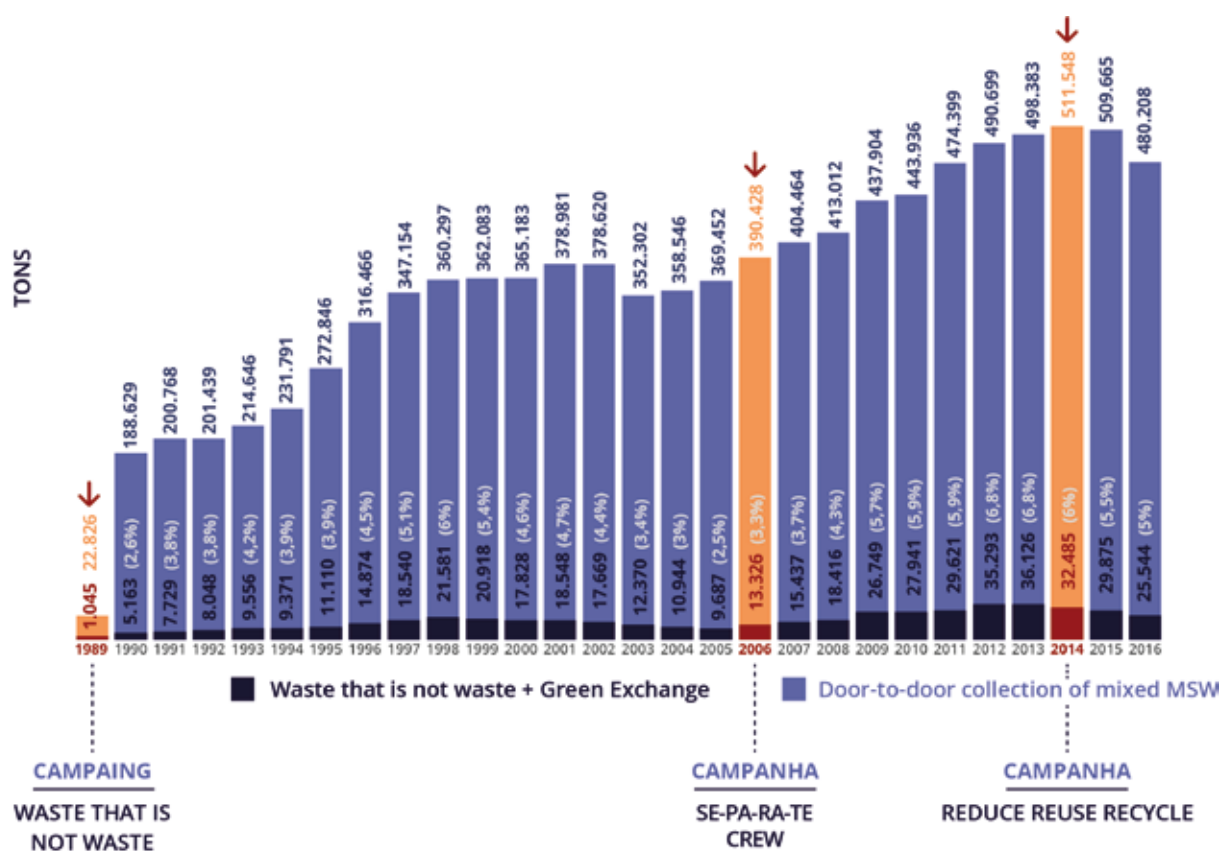
Title	Waste that is not waste
Year	1989
Slogan	Waste that is not Waste does not go to the trash bin: se-pa-ra-te
Characters	Leaves Family: father, mother and children
Purpose	Guide the population to separate at the source the dry recyclable fraction.
Broadcasting	Spots for TV and radio, advertisements for magazines and newspapers, street furniture, busdoor, street posters, booklets and folders directed to schools.

Title	SE-PA-RA-TE CREW
Year	2006
Slogan	Waste that is not Waste does not go to the trash bin: se-pa-ra-te
Characters	Vidroaldo, Plastilde, Ed Metal e Papelucho
Purpose	Encourage and strengthen the involvement of the population in the source separation of recyclable waste at households and other establishments such as schools and malls.
Broadcasting	Spots for TV and radio, advertisements for magazines and newspapers, street furniture, busdoor, street posters, booklets and folders directed to schools
Others	Master Comunicação company

Title	REDUCE REUSE RECYCLE
Year	2014
Slogan	Reduce, reuse, recycle, do your part
Characters	Dr. Sigmundo, Loaf of bread, Glass, Can of sardines, String bean family and Box of milk
Purpose	Stimulate the population to non-generation and guide the separate collection of only paper, plastic, glass and metal and reuse with creativity
Broadcasting	Spots for TV and radio, street furniture, busdoor, collection trucks and social media
Others	Master Comunicação company

3.1.1 Impact on the evolution of formal separate collection

The following graph shows the overlap of three different data: dry recyclables collected by LQNL and Green Exchange programs; mixed waste collected by door-to-door scheme; the year of entry of the three main communication campaigns.



Picture 12- Historical series compares the amounts collected under the Green Exchange and Waste that is not Waste programs and standard door-to-door collection of mixed MSW. Source: MALP/SMMA.

From the analysis of the dataset presented by the graph, it is possible to conclude that:

- After 1989, there was a fluctuation in the amounts of recyclables collected in an upward curve, increasing approximately 18% per year from 1990 and 1999;
- From 2000 the volume began to decrease and in 2005 presented a similar value to that of 1993 at the beginning of the program, with a decrease of approximately 50% in relation to 1998, which was the largest amount achieved so far. One of the reasons found out by the project team is the lack of campaigns/official communication actions in this period of 17 years from the first campaign to the second one. So probably is due to a lack of motivation/awareness from the population;
- From 2006, with the intervention of the SE-PA-RA-TE crew campaign, the amounts of separate collection increased again and, between 2007 and 2013, the average increase was 16% per year. Comparatively, the average increase in the amounts of mixed waste was 3.6% per year, almost five times lower – an evidence of more source segregation than before;
- From 2014, the volume of recyclables decreased as well as the volume of mixed waste collected; a first thought would say that these results were due to the REDUCE REUSE RECYCLE campaign, launched in the same year, but the main reason appoints to the economic crises faced by Brazil from this year to nowadays.

These observations may suggest the impact of: the **1989** campaign, which guided the population to segregate the source of dry waste, the **2006**, which reinforced the issue of correct separation, and the one from **2014**, aimed at raising consumer's awareness. **But all initiatives resulted in a marginal impact** on the current amounts of MSW collected: the formal separate collection schemes (LQNL, Green Exchange) achieved from 2.5% to 6.8% of the total MSW collected in a period of almost 30 years, showing a poor result considering that the dry recyclable fraction corresponds to 48%⁴ of the MSW composition from Curitiba. However, there is still an active informal sector, i.e autonomous waste pickers and unemployed people, that probably collects significant amounts of dry recyclables, but does not provide data from its operation.

The message from the “official” data is that all communication campaigns were not effective in “rising” participation and relative amounts of dry recyclables subject to separate collection.

3.2 The social media

The Curitiba municipality has an institutional profile on three social medias: Facebook, Twitter and Instagram; through them it publishes information on public services and events, addresses pressing local issues with the aim of sensitizing the population to the necessary solutions. The project team researched the content published by the municipality on these three social media under the MSW-related keywords filter, and the results can be observed in the following topics:

— Facebook

The official page of Curitiba municipality on Facebook has 837,000 followers from various parts of Brazil and residents in other countries. The publications are written in informal language and cover city news, public services and agenda, as well as awareness campaigns. In the survey carried out by the project team from keywords, the publications related to MSW were made from 2013, which synthesis and example of posts are presented below:

Key-word	Number of publications	Year	Relevant topics
Residue	5	2017	Reports on collection services
	33	2016	Electronic waste (WEEEs)
	50	2015	Kick off of the Green Exchange Program
	20	2014	Kick off of the Dr. Sigmundo campaign
	16	2013	Reports on collection services

⁴ According to data from 2016 provided by MALP/SMMA in the CCAC City Assessment Tool.

⁶ www.facebook.com/PrefsCuritiba

Separate collection	1	2016	Clean City game
	5	2015	Disclosure of Sustainability Stations
	4	2014	Reports on collection services
	16	2013	News about waste pickers
Waste	1	2016	Electronic waste
	3	2014	Green waste
Recycling	1	2016	Recycling of chewing gum
	12	2015	Clean City game
	7	2014	Solidarity Actions
	5	2013	Importance of recycling

 **Prefeitura de Curitiba**
15 de janeiro · 🌐

Procure a lixeira mais próxima! ❤️ #CuritibaGentil

#PraCegoVer: imagem com o texto "Curitibano gentil não joga lixo no chão", no canto inferior esquerdo está escrito "#CuritibaGentil" e do lado oposto "@PrefsCuritiba".



Likes: 1,2 mil
Shares: 187

 **Prefeitura de Curitiba**
9 de junho de 2016 · 🌐

Sabe aquele móvel antigo que você quer descartar e não sabe como? O Dia do Desafio vai promover uma grande coleta de resíduos no dia 10 e 11 de junho de diversos tipos de materiais, participe e ajude o meio-ambiente.

Serão coletados: material eletrônico, gesso, madeira, tintas, latas em geral, pneus, óleos de cozinha, garrafas PET, sacos de cimento, pilhas e baterias, papéis, revistas, vidros, plásticos, remédios, material de demolição, móveis e roupas.

Locais: ... Ver mais



Likes: 200
Shares: 24

Prefeitura de Curitiba
12 de janeiro de 2015 · 🌐

Mais de 1,5 mil quilos de resíduos foram entregues na Estação de Sustentabilidade do Boa Vista.

Quarenta dias após ser inaugurada, a primeira Estação de Sustentabilidade de Curitiba, localizada na Regional Boa Vista, coletou 1.502 quilos de lixo reciclável. O equipamento é um local preparado para entrega voluntária de resíduos por moradores da região. A Secretaria Municipal de Meio Ambiente pretende, nos próximos anos, implantar pelo menos uma estação em cada um dos 75 bairro... [Ver mais](#)



Likes: 845
Shares: 146

Prefeitura de Curitiba
24 de junho de 2014 · 🌐

Material reciclável gerado nos Armazéns da Família vai para o EcoCidadão.
O volume de papelão gerado nos Armazéns da Família está sendo destinado aos parques de [reciclagem](#) do projeto EcoCidadão, por meio de uma parceria entre a Secretaria Municipal do Abastecimento (SMAB) e o Instituto Pró-Cidadania (IPCC).
O EcoCidadão é um programa da Prefeitura de Curitiba, que funciona através de um convênio firmado entre a Secretaria Municipal do Meio Ambiente, Instituto Pró-Cidadania ... [Ver mais](#)



Likes: 227
Shares: 20

The former post shown above have only a marginal impact on the population with up to 800 likes (with a population of 1.8 million); on contrary the slogan Curitibano Gentil (“kind” Curitibano, which is someone that is born in Curitiba) was strong followed with 1.2 mil likes.

Prefeitura de Curitiba
14 de julho de 2015 · 🌐

Prefira comprar frutas e verduras a granel. Se a mexerica vem numa bandeja de isopor com um plástico por cima, isso significa mais lixo para ser descartado, mais energia gasta em reciclagem e mais pendências para resolver com o meio ambiente.

Curitiba leva a reciclagem a sério faz tempo. Nosso esforço agora é para reduzir a quantidade de [lixo](#) gerado. Até agora, conseguimos uma redução de 11%.

Para que Curitiba continue no caminho certo, você também precisa ter a atitude certa... [Ver mais](#)

A natureza me fez assim.
A natureza me prefere assim.



Humano, me aceite como eu sou.
carnosamente,
mexerica. ❤️

Likes: 43 mil
Shares: 20 mil

After the selection made by filtering keywords and evaluation of content, the most prominent publication in terms of public outreach was selected: published in 2015, the post showed in the print below intended to make people aware of the use of packaging and its impact on the environment. Using an “emotional” approach, the message says “The Nature made me like this, the Nature prefers me like this. Human, accept me as I am” and reached 43,000 likes and about 20,000 shares. Hence the two more “emotional” posts reached far more contacts than the educational ones.

— Instagram

The official page of the Curitiba municipality on Instagram has 95,800 followers and is used to share photographs of the city sent by locals and tourists. Unlike what is observed for Facebook and Twitter, there is no disclosure of information, nor publications related to MSW. Therefore, for this social media, no synthesis was elaborated.

— Twitter

The official page of the Curitiba municipality on Twitter was created in 2009 and has 296,000 followers. The search for publications resulted only for the keywords residue, waste and recycling, which synthesis and examples of are presented below:

KEY-WORD	NUMBER OF PUBLICATIONS	YEAR	RELEVANT TOPICS
Residue	6	2017	Collection Reports
	1	2016	Report on the collection of electronic waste
Waste	1	2017	CCAC Project
Recycling	1	2017	Planning on MSW management by the new Administration



3.3 The communication channels

— Curitiba Municipality Website: registration and online chat

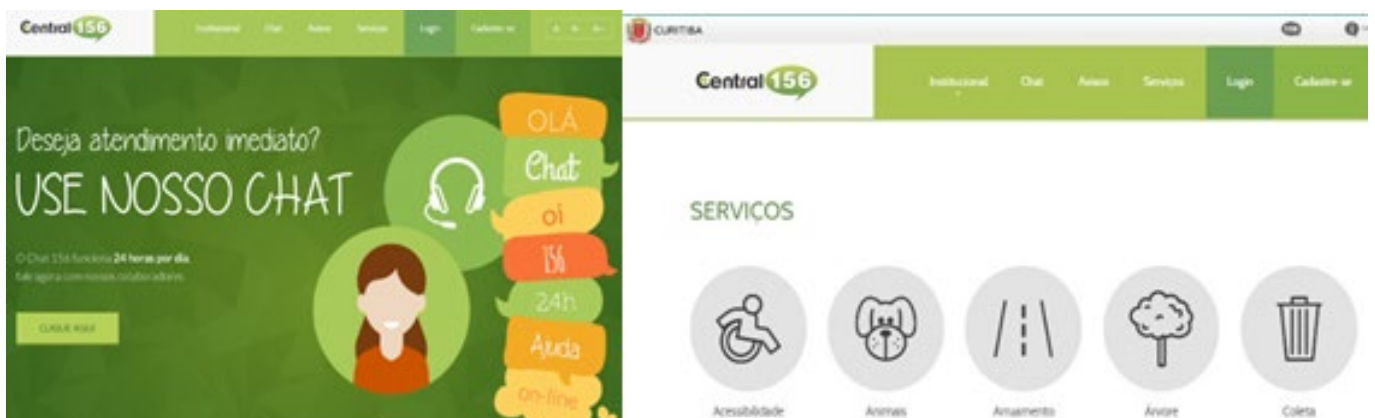
The institutional website of Curitiba publishes information about services and news of the city, besides allowing access to specific services for citizens, companies and servers, communication channels, registration and real-time chat.



Picture 13- Home page of the institutional website of the City Hall of Curitiba

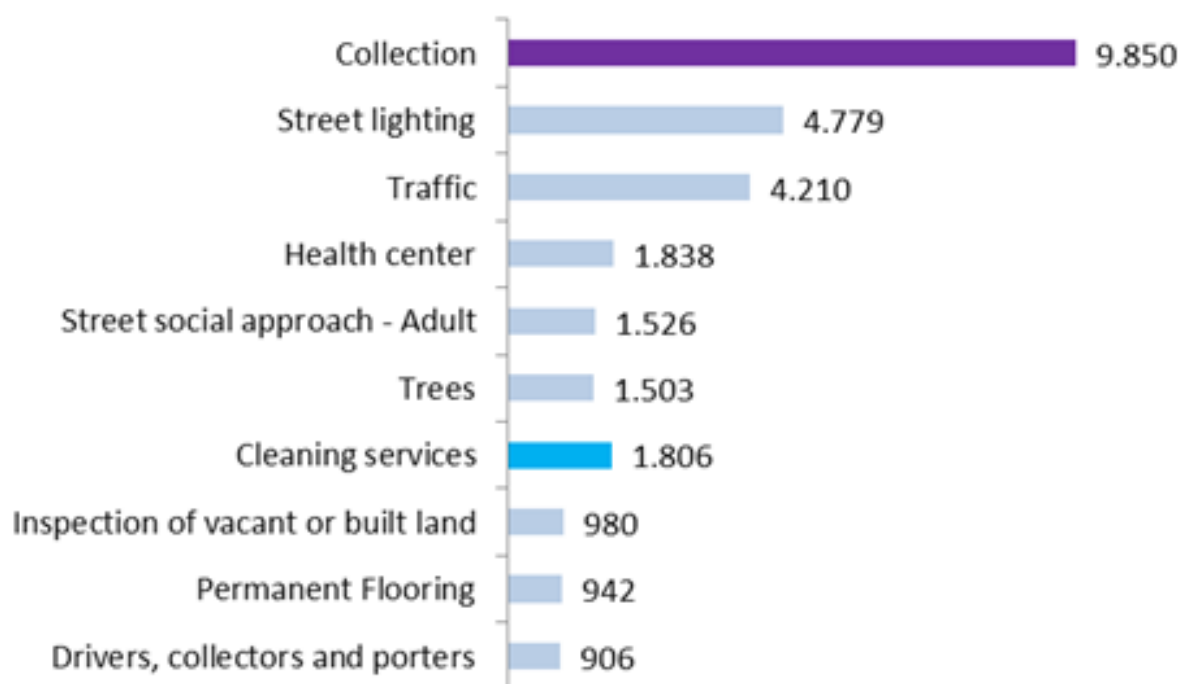
— Service Desk 156: Request for services and information

The municipality also provides a service center 156 that allows the citizen to request services, such as on-demand collection of green waste and construction and demolition waste, and obtain information, such as detailing the services provided by municipal administration departments. The service takes place by phone and online.



Picture 14 - Service Desk 156 online chat

The chart below summarizes the requests received in March 2017, including services and information, with collection requests representing 36% and cleaning services 4% of contacts made by citizens.



Picture 15- Ranking of requests made up to March 2017. Source: SMCS, 2017.

3.4 Municipal Solid Waste Management Plans (PGIRS)

It is important to highlight the importance of the communication role of the PGIRS. The document gathers data and information for the exercise of citizenship regarding municipal solid waste and the planning of its management, expressing current practices and what is expected for the future.

The first version prepared by Curitiba was released in 2010, and its content was updated and revised in 2013 and 2015 – which has not yet been published. While the 2010 Plan is more general and brings important historical issues between society and waste, the 2013 version presents more insightful quantitative data, and that of 2015 exposes its characteristic of co-construction with stakeholders outside the Secretary for the Environment.

Concern about governance and indicators on environmental education, an unquestionable way of communication, has been a constant since the 2010 Plan, changing approach over time. The 2015 Plan is the first to address waste communication itself, giving a prominent role to its guidelines:

“(…) has as main objective to encourage co-responsibility between the public and organized civil society in carrying out basic sanitation actions and works, contributing to the environmental sustainability of Curitiba and universal access to sanitation services.”⁵

The Plan also mentions the context of the actions of education for sustainability that, since 1991, has a crosscutting nature with the Municipal Secretary of Education, and clarifies that the actions are organized according to circumscribed areas of activity: communities, educational institutions and conservation units. In this way, the plan highlights, among its lines of action, communication for environmental education:

⁵ PGIRS 2015, p. 166

(...) systematically disseminating of educational information about the environment in the mass media (newspapers, radio, television, internet, games), systematic advertising on multiple media (displays, plaques, totems, internet, folders, among others) of data on sanitation actions, allowing mobilization and social control, literary and other diverse ways of expression as diffusers of the concepts and practices of Environmental Education. ⁶

One of the educational actions developed in this sense was the creation of the videogame "Clean City". Launched in early 2016 by the IPCC in partnership with the Curitiba municipality and the company Racional Games, the application has been used as an educational tool and has already reached 2,000 students from 25 municipal schools. The proposal of the game is to encourage the correct separation of waste and, in the different phases, players must distinguish in which color of trash each type of waste should be discarded.



Picture 16 - Clean City app overview.

4. CONSIDERATIONS

4.1 An overview of cultural evolution on waste

In order to analyze the communication approaches adopted and to foresee future possibilities and challenges, it is necessary to keep in mind the historical context and the cultural evolution regarding the production and destination of waste in society.

The Waste that is not Waste program is contemporary to the Eco92 Rio Summit - a time when the waste issue was still far from the population in general and where the term "recycling" began a long journey to become known and understood. The challenge was to introduce the theme and a new behavior.

In the course of these years, efforts have been made to correctly dispose the other waste categories, such as electronics (which have experienced a generation boom in the last 20 years) and organic waste - an extremely representative fraction of the total MSW produced in Brazil, but still little recognized and understood by the population and with a low supply of services

⁶ PGIRS 2015, p. 167-168

and solutions provided by the municipalities. The composting of organic waste may be at the same point as recycling was 30 years ago - something still barely recognized and understood, with a strange name but with the potential (and demand) of naturalizing as a practice.

In this same period, the environmental issue (broadly) gained prominence and contemporary expressions - from fashion and lifestyle to technology and marketing of causes. Organic food has established a new ideal of food and urban living standards have been redefined with the emergence of new phenomena such as urban agriculture, thrift shops and trade fairs, local and ethical consumption, among others, driven mainly by a young generation that has been educated under the values of collaboration, sustainability and with intense pressure for identity and expression. Today, the environmental issue (the main claim used in solid waste management) is much more than "saving the planet" - it has to do with values and practices that constitute contemporary life (although there is always a great distance between values and practices). And this is a highly strategic aspect for citizen engagement in public waste policies.

In the MSW field, we need to go beyond the idea of "saving the planet", which refers to everything that has already been deteriorated by human action and brings the feeling of sadness and guilt. It's not easy to involve citizens on global issues, but it's possible to make them become protagonists in applying on local issues that can have both local and global effects.

In this way, we should promote the sense of "smart cities", which refers to the future, brings optimism and is in line with the new urban phenomena mentioned above. This perspective of an intelligent city is not only based on the structural/technological aspect, but especially on the way citizens live and build a certain city. Under this view, the autonomy, creativity and participation of civil society is as important as the structure offered. To some extent, the campaigns promoted by the municipality of Curitiba have already accessed this notion through "pride of Curitiba", which, among other aspects, is based on the city being pioneer in many actions of urban sustainability.

In another aspect, the notion of "shared responsibilities", consolidated in the National Solid Waste Policy of 2010, places the citizen in a different position of that in the past. Their participation becomes active, minimizing the voluntary aspect and reinforcing the bias of civic practice.

Today, social mobilization for the transformation of civic behavior has several other tools, far beyond direct, inspirational or informative communication. Even more in the particular case of behavioral transformation related to waste generation and disposal, because it is a practice that happens daily, in a private environment and linked to intimate choices and consumption, thus, with identity and expression.

This challenges us to find ways to conduct public policies and actions WITH people, not just FOR people. The protagonism of the citizen (and groups) brings content for the construction of these policies, as well as characteristics of impact, depth, capillarity and generation of engagement that need to be stimulated, mapped, valued and strategically used.

In this sense, it is opportune to bring as a reference the municipal project Composta São Paulo⁷, which distributed more than 2,000 home-composting boxes to families from all regions and social classes of the city of São Paulo. Among other innovative tools and initiatives, the project created a Facebook group platform where citizens themselves questioned each other

¹³ compostasaopaulo.moradadafloresta.eco.br

about composting techniques (as well as several other exchanges about urban sustainability issues), allowing citizens to play a leading role, ensuring a high level of engagement (less than 2% of dropouts) and reducing the cost of support from the public power. Surveys applied to participants showed that 91% of those who did not separate dry recyclables before the project said that composting also encouraged them to separate other wastes correctly. This suggests that at least part of the recyclability problem of the Curitiba dry recyclable fraction can be solved not only with direct messages about it, but also through other waste recycling practices.

The municipalities' actions for deviating waste from landfills must be based on at least four premises: 1. wide structure offer to recover different waste streams; 2. example (correct allocation and treatment of public waste); 3. citizen leadership (both in mobilization and generation of solutions) and; 4. practical proposals (offering not only stimulating messages but means for the citizens to act).

4.2 Advancing awareness and engagement strategies

According to what was researched and evaluated on the communication campaigns and actions of over the last 30 years and the offered structure of public services, it can be inferred that the citizens of Curitiba are already aware of why and how to correctly separate of at least part of their household waste (especially the dry recyclable fraction).

In order to move forward, improving not only the quality (i.e impurity rate) and increasing the amounts of the separate collection but also expanding it to other waste streams, we need to touch on two key points: 1. **provide alternatives for the treatment of the organic waste fraction**; 2. **strategic review of the role and mechanisms of social communication**.

For point 1, this can be done effectively through:

- *home-composting practice, which does not need to wait for any municipal infrastructure to be implemented;*
- *realization of recycling facilities (composting or biogas) and door-to-door collection.*

Organic waste is the most representative fraction of the MSW, and can play a major role in raising the amounts diverted from disposal at a landfill.

For point 2, focus of this report, we can address four readjustments to be made:

1. Readjustment of role

In addition to the role of informing and inspiring citizens, communication should absorb the responsibility of being a facilitator of the debate, spelling out the notion of "shared responsibilities." This means leaving the role of teachers and assuming the role of facilitators. That is to say, talk not only about public services, but also make room for citizen leadership. The notion of social communication includes other ways than just the one-way relation between government>society, but includes other ways such as society>government and society>society. Actions and content generated by citizens themselves (in particular, engaged groups) should be mapped and publicized. Dialogue becomes more important than top-down speeches: the government is not the only one to teach about waste. Research and listening become part

of not only data collection and decision making, but also the relationship and collaborative search for solutions.

In this sense, understanding the role of the waste collectors also as environmental and communication agents is timely, as well as neighborhood initiatives working with urban agriculture and other expressions of sustainability.

2. Readjustment of concept - Waste that is not Waste

The concept of "waste that is not waste", when looked at from the perspective of only dry recyclables, is in conflict with the guidelines of the PNRS in relation to the segregation in 3 fractions (which only places the waste as waste without treatment). It's crucial to incorporate the organic waste in the concept and create means for its correct disposal by the citizens.

To some extent, it is time to say that "Waste is not waste" or even that "Waste is NEVER waste" and incorporate in the program, definitively (not just punctual) the notion that everything we generate can and should have an appropriate destination.

3. Readjustment of language

Bearing in mind the social participation as content, it is important to give space not only for concepts and services reports, but also for citizen action. Research and open surveys about how citizens do the separation in their homes, for example, are also communication.

Again, the idea of a "smart city," built collaboratively, figures as the central element of language.

It is necessary to work with a wide range of communicational approaches - according to the audience to be reached and the topic addressed - such as:

- *Formal information (eg: updated data on municipal waste)*
- *Informal information (eg: information on treatment of certain waste streams)*
- *Inspirational (eg: initiatives from other countries, new technologies, etc)*
- *Didactics (eg: explaining the nature of the waste and the correct disposal)*
- *Invitational (eg: invitations to interventions and events to be held, calls to action)*
- *Sociable (eg: surveys on domestic methods of separation, main difficulties, etc.)*
- *Moody (eg: to signal wrong discarding behaviors)*

The examples above are some of the expressions of how the role of fostering dialogue on waste can appeal to different tones of communication.

4. Readjustment of channels

The choice of television (allied to structuring actions and other channels of communication) of the first campaign provides relevance, marking the intention and position of public policy. Consequently, the population receives the agenda with greater attention. This channel is fundamental to symbolize the importance that the municipality gives to the determined action/

goal/public policy. On the other hand, in addition to being very expensive, the broadcast on open TV does not allow high frequency and depth. It caters well to the WHY, but does not fully deliver the HOW.

In this way, it should serve to direct people to other channels, which allow for a deeper understanding of issues, the provision of services and solutions, a greater frequency in dialogue and the self-initiative of the citizen.

So, the opportunity arises for the creation of a dedicated channel, in a digital media, with constant dialogue with the official channels of the municipality - in addition to the occasional publication initiatives in the official social networks being used so far. This channel should have the role of conferring frequency and depth on waste topics: separate collection, delivery stations, indications on specific waste, solutions created by the population itself, the problem of contamination and low recyclability, updated municipal data, means of generation reduction, as well as other related urban sustainability themes. In other words, to transparently share with the citizens the current situation, the desired goals to be achieved and so engage them to do its part.

4.3 Conclusion

The pioneering approach to MSW management in the city of Curitiba can be seen also in the communication and public awareness initiatives. Structuring actions, combined with different schemes for collecting/delivering recyclable waste and didactic, accessible and fun communication, have made consistent the path to reduce the delivery of MSW to landfills.

The challenge now is to deal with the issue of recyclability and to advance the structures, public perception and treatment rates of other waste streams, mainly the organic fraction.