

## A new approach to solid waste management in Medellín: matching problems with solutions

Over the last ten years, the City of Medellín has achieved numerous improvements in its standards for solid waste management. A major contributor to this success has been the implementation of educational programs, regulatory actions, and tools for integrated solid waste management. These initiatives, undertaken by the city's Secretariat of Environment, have been noteworthy for their emphasis on enhancing the social inclusion of waste collectors.

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### Summary

In 2013, the City of Medellín strengthened its solid waste management framework by introducing a project titled "Solid Waste: Strengthening the Use and Inclusion of Collectors in the New Framework of Public Cleaning Pricing" (*Residuos Sólidos, fortalecimiento, aprovechamiento e inclusión del reciclador en el nuevo marco tarifario de aseo*). The focus of the project was to increase the recognition and inclusion of the valuable work being done by waste collectors in the city. These goals have been achieved by integrating the informal economic work of waste collectors and recyclers into local policies, and by raising awareness on the effectiveness of selective collection. Results, such as the 13.5 percent increase in solid waste recovery and the prevention of 665 tons of waste being sent to the La Pradera landfill, have further consolidated participation and support for improved solid waste management in Medellín.

### Medellín's Context

Medellín is the second most populous city in Colombia. Yet according to the *Medellín Cómo Vamos*, published in 2013, the trend of increasing per capita solid waste production, observed since 2009, was reversed in 2013. In fact, 589,428 tons of waste was generated in 2013 (42,407 tons more than in 2012), but the volume was equivalent to 0.57 kg/person/day. This is less than the ratio for 2012 (0.63 kg/person/day), and represents the lowest production per capita observed in Medellín since 2004.

Over the past decade, Medellín has been developing a comprehensive and sustainable waste management plan that emphasizes social inclusion; bringing attention and recognition to the valuable work done by waste collectors, who are amongst the most impoverished inhabitants of Medellín.

In line with other city-wide efforts, Medellín has a Comprehensive Management Plan for Solid Waste (*PGIRS*). This plan has announced goals for 2015 which include the re-use of 30 percent of inorganic recyclable waste and 15 percent of organic waste collected.



### Facts & Figures

**Population / Land area**

2,441,123 / 381 km<sup>2</sup> (2014)

**Municipal budget:**

\$213 million USD (2014)

**GDP per capita:**

US\$ 11,466 (2014)

**Local economy:**

Industry, Services, Trade



## The Urban-LEDS Project

An Urban Low Emissions Development Strategy (Urban LEDS) defines a pathway to transition a city to a low emission, green and inclusive urban economy, through its integration into existing city development plans and processes.

The Urban-LEDS project (March 2012 - March 2016), funded by the European Union, was jointly implemented by UN-Habitat and ICLEI. It supported local governments in emerging economy countries (Brazil, India, Indonesia, South Africa) and in Europe to transition to urban low emission development using ICLEI's GreenClimateCities methodology, comprehensive process guidance, to integrate low emission strategies into all sectors of urban planning and development.

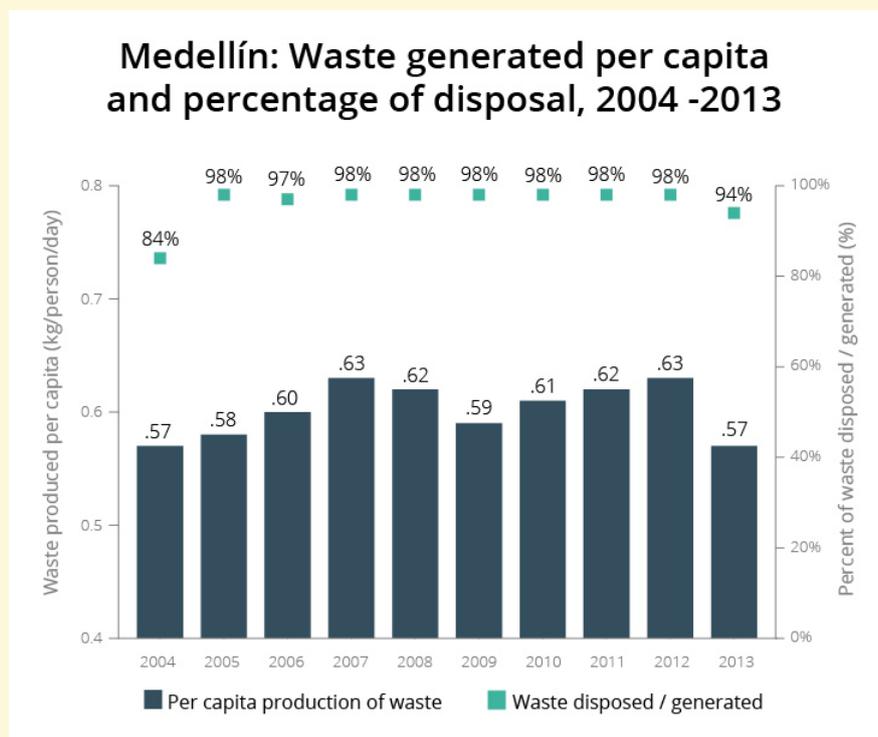
For more information, please visit: <http://urbanleds.iclei.org/>

## Advances in waste management for a decade

For the past decade, Medellín has been developing cooperative initiatives to improve the integrated management of solid waste. Several of these initiatives have been performed in conjunction with the health service provider in the city: Empresas Varias de Medellín (Emvarias).

Hygiene has been identified as an indicator for waste management success, and Medellín City Hall held strategic awareness campaigns on this topic, encouraging both citizens and visitors to keep the city clean. To further pursue this goal, City Hall also constructed seven Municipal Collection Centers in 2005. These improvements to infrastructure were essential gestures to offering better conditions for, and to dignify the work of, waste collectors. The Collection Centers also provided an economic benefit for the collectors, who subsequently began to receive fair values for usable material. Prior to this, the collectors had been selling waste in the informal market for below-value prices.

Another important initiative that emerged in 2005 was the implementation of the first phase of the Integrated Solid Waste Management program, which was enacted in several municipalities within the City of Medellín: Altavista, San Cristóbal, San Antonio de Prado, Santa Elena, and San Sebastián de Palmitas. The second phase of the program was undertaken in 2006.



Report of Quality of Life 2013 - Medellín Cómo Vamos  
Source: Sub-Directorate of Information



Image: Jorge Enrique Torres Herazo / RECIMED

## The project: Solid Waste - Strengthening the Use and Inclusion of Collectors in the New Framework of Public Cleaning Pricing

It is within the context of social inclusivity and city health that the Solid Waste, Strengthening, Use and Inclusion of Collectors in the New Framework of Public Cleaning Pricing project has been developed. The project was launched in 2013 as part of a national effort that encouraged greater citizen participation in civic life. Through this initiative, waste collectors were consulted in the review process of the pricing framework for public cleaning services (an initiative comprising all Colombian municipalities with more than 5,000 inhabitants). This ensured both a fair economic return for the collection and transportation of solid waste, and incorporated formerly alienated citizens into the legislative process.

In order to recognize waste collectors as public cleaning service providers, and to remunerate them for their work, the City of Medellín has been regulating the activity at the local level. This is a temporary state-of-affairs, as national regulation will ultimately take effect. This national regulation will be based upon the parameters of the services of separation, recycling, treatment, and use of solid waste, as stipulated in Decree 275 (2011) of the Constitutional Court of Colombia. Thus, the task of defining the methodology for calculating the rates of public cleaning service for the next five years is the responsibility of the Commission for the Regulation of Drinking Water and Sanitation (CRA - Comisión de Regulación de Agua Potable y Saneamiento Básico), which has been empowered through Resolution CRA 643, passed in 2013.

In addition to regulating solid waste management, the City of Medellín has launched several communication campaigns to raise greater awareness about the people involved in the integrated management of solid waste framework. In addition to promoting the waste collectors, the City's framework is supported by an interdisciplinary working group. This working group is led by the municipal administration and is composed of department secretaries and external participants such as anthropologists, sociologists, communications experts, and various other professionals.



Image: Leonardo Ocampo Contratista / Secretariat Environment of the City of Medellín

### **Community participation: A key success factor for achieving progress**

To achieve the proposed objectives, the municipal administration works intensively with initiatives for community awareness; for instance, through the implementation of sustainable production and consumption habits. In the context of the Local Planning and Participatory Budgeting and Equity and Life Workshops (*JVE - Jornadas de Vida y Equidad*) programs, the community prioritizes resources for implementing strategies in their territories, and performs actions designed to promote proper management of waste through activities of recreational and educational intervention and disclosure of information. The work is developed through door-to-door visits, participatory workshops, recovery of critical points (such as makeshift dumps), and community visits to collection and waste separation centers, and environmental fairs.

## **Background: Legal instruments and initiatives to further promote social inclusion**

Agreement 46 (2007) has been passed in the city of Medellín. The agreement establishes “the public policy for promoting the recovery of solid waste, with a productive and healthy approach to the social inclusion, visibility, and dignity of collectors or recyclers”.

To this end, the City of Medellín has provided the collectors with formal attire such as uniforms and badges. This has helped to further legitimize their role and importance in the fabric of civic life.

## **Strategic alliances**

A key initiative for the success of the comprehensive solid waste management practices in the city has been the creation of a collectors' cooperative, which represents the rights and interests of waste collectors. Thus, upon the initiative of the Secretariat for Environment of Medellín and the Metropolitan Area of Vale de Aburrá (Medellín and nine other municipalities), the Recimed cooperative was established in July 2006 with 20 initial members. The objective is that the cooperative will allow the guild of collectors to improve their working conditions. This has been a topic of interest for the City of Medellín since a Census of Collectors, conducted in 2005, identified both the vital importance of the work done by collectors, and their many unmet basic needs.

From 2008 until early 2012, Recimed was economically supported through its own promotional activities which, through waste recovery association agreements and environmental education, contributed considerably to the cooperative's budget.

In 2012, considerable changes occurred that led to the improvement of the administrative, technical, and financial aspects of Recimed. Since these changes, the entity has been able to work more efficiently through all its activities and expand its reach and benefits to more than 700 associated collectors.

## **Prospects for the future**

The City of Medellín plays a valuable role by supporting both the training of collectors' organizations and the ongoing training of the collectors themselves. As more training takes place, the collectors are increasingly provided with greater autonomy.

## **Results of the set of integrated actions to date**

**The service life of the local landfill has been increased.** A figure of 13.5 percent recovery of the total solid waste generated in the city in 2013 was achieved. This marked an improvement on the 12.2 percent received in 2011 and 2012, and prevented 665 tons of waste from reaching the La Pradera landfill. The goal is to reach 15 percent recovery by 2015 and 30 percent recovery by 2019. The improvement of waste management has also contributed to the reduction of environmental impacts, such as changes in water quality, depletion of the ozone layer, increased soil erosion, reduction of greenhouse gases, landscape destruction, etc.

**Social inclusion of waste collectors has been improved.** Because of the City of Medellín's initiatives, the testimonies of several collectors, such as Alexander Rentería, have been enabled and recorded. Rentería devoted himself to his collection work under informal conditions for four years. Following the improvements to the integrated solid waste management framework, he currently has eight years of experience at the Recimed Cooperative, has improved his quality of life, and has managed to complete technical studies.

There are over 600 other collectors just like Rentería, all of whom were able to improve

their living conditions and participate in educational activities and labor building programs thanks to the Recimed cooperative. In total, the actions have benefited 3,200 collectors; all of whom now receive a comparatively fairer price for the material they collect, regardless of cooperative membership.

## Costs and funding

In 2013, the sum of the total investments from contracts of the Local Planning Program and Participatory Budgeting (prioritized by the communities) was 850,000 USD.

## Lessons learned

**Passing coordinated legislation that both promotes and enables the work of collectors is invaluable.** Isolated actions often do not produce the desired effects, as they are often met with cultural resistance and legal and infrastructural roadblocks. By passing coordinated legislative action, initiatives can have a greater effect.

**Community involvement is pivotal.** Ongoing awareness and education outreach initiatives in the community have multiplied the success of the solid waste management framework. It has helped members of the community to both reevaluate its consumption decisions and separate waste prior to collection. These valuable steps have expanded the range and impact of waste collectors.

**Social recognition of waste collectors is essential.** Waste collection (and by association waste collectors) was at one point viewed as a marginal practice. The Secretariat for Environment in Medellín has focused on increasing the social recognition of waste collectors, in large part by raising community awareness of the importance of their work. Further steps, such as legitimizing their activities through uniforms and collection depots, have also had a very positive effect.



Image: Leonardo Ocampo Contratista / Secretariat Environment of the City of Medellín

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**Participation of the private sector and industry is also important.** Organizations which are large generators of waste should be involved in the process and asked to contribute to changes in their practices. The City of Medellín involved these actors, and empowered the waste collectors to assist their waste management activities. Waste collectors' organizations were then strengthened by the Mesa de Recicladores, which allows them to negotiate the prices of materials in conjunction with the major industries.

**Solid waste management is a learning process.** These actions in the Medellín municipality are the result of trial and error, and reflect a commitment to lifelong learning. This long-temporal approach allows for flexibility in the search for effective solutions.

## Replicability

A city looking to replicate the solid waste management success of Medellín must demonstrate political will, and be committed to making an honest assessment of its existing infrastructure and operational systems.

A proper waste management diagnosis will reveal the qualitative and quantitative characteristics of solid waste generated in the city, as well as the conditions and tools with which the municipality has been operating. Only once a diagnosis has been made can an appropriate plan be tailored. Results might not be immediate; therefore, it is important that a city can sustain the political will that is required to see the returns on investments made through waste management programs and projects.

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