

USING GREEN AND DIGITAL TECHNOLOGIES TO REDUCE FOOD WASTE AT THE CONSUMER LEVEL

CASE STUDY: BOGOTA, COLOMBIA

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Consumer food waste in Bogota

In Colombia, 9.7 million tons of food are lost and wasted each year, enough to feed the population of Bogota – the country’s capital and largest city – in the same period. Out of every 3 tons of food produced in the country, 1 ton ends up in the garbage. The annual cost of these losses and wastes amounts to \$45.37 million Colombian pesos.¹

There is limited data on food waste at the local level, particularly for Bogota. However, a study conducted by the Japanese International Cooperation Agency (JICA) estimated food waste to be around 70 kilogramme per capita (assessment done by using the methodology developed by UNEP’s Food Waste Index). In addition, the Secretary of Economic Development of Bogota calculated that 1,228,000 tons of food are wasted in the city each year, of which 29,000 tons are dairy products and 590,000 tons correspond to fruits and vegetables, often discarded because of their appearance.²

Despite the limited data, a WWF-Colombia study,³ which surveyed households in eight cities, including Bogota, found that:⁴

-  **There is an existing dissonance of not wasting:** People state that they do not waste food due to moral or religious factors and because many consider they are living in a time of crisis. However, a visit to people’s kitchens reveals waste, with varying degrees of awareness.
-  **Abundance is perceived as the main cause of food waste:** In a project survey, 30.8% of respondents said the main reason they throw away food is that they cook more than needed and 25.3% because too much is served on the plate. They also recognize that it is normal to sometimes have too much food and generally look for a way for someone else to eat it, including animals in the neighbourhood. Even 17.7% of respondents believe that they do not need to reduce food waste because they do other things with it, such as composting or feeding animals.
-  **People seem to believe that some food waste is more “serious” than others:** 65% of those surveyed believe that ready-made food is most wasted, while only 27.1% consider partially used food – vegetable and fruit scraps thrown away while cooking – as most wasted. This demonstrates that discarding this food is not necessarily perceived as waste, but rather as a normal part of the cooking process.
-  **The change people are willing to make happens at home, not at the place of purchase:** Respondents said that the ability to save money (47.1%) and wanting to manage their household more efficiently (46.2%) are two of the main reasons they would reduce the amount of food wasted in their home. Although not among the top motivations, the desire to reduce their impact on the environment proved to be a greater driver of change – to reduce waste – than eating a healthier diet.

 **The strategy that people have when faced with waste is to throw it away:** When Colombians are faced with food waste, they believe that the only way to solve it is to quickly take it to the bin, particularly in cities with hot climates. This shows that they are not taking measures to better manage their food and is another way of denying the problem. Household visits showed that when waste becomes garbage, people no longer feel it is their responsibility.

¹FEMSA, <https://femsaoundation.org/comunicacion/noticias/colombian-innovators-food-waste>.

²Secretaría de Desarrollo Económico (2020). Alcaldía de Bogota promueve acciones en la reducción de pérdidas y desperdicios de alimentos. Retrieved from: <http://www.desarrolloeconomico.gov.co/noticias/alcaldia-bogota-promueve-acciones-la-reduccion-perdidas-y-desperdicios-alimentos>

³WWF-Colombia (2021). Desperdicios: imaginarios, actitudes y comportamientos en Colombia. Informe ejecutivo Septiembre 2021. https://wwflac.awsassets.panda.org/downloads/wwf_desperdicios_v03_optimizado.pdf.

⁴Two-phase mixed methodology. A first qualitative phase of deepening the reality of Colombians regarding sustainable food with three methodological tools: in-house observation, photographic essays and in-depth interviews with a total of 47 interviewees throughout the country. The second quantitative phase of understanding a reality with a digital survey tool applied to men and women over 18 years of age and older who were household food purchase decision-makers. Both methodological analyses were conducted in Bogota, Barranquilla, Bucaramanga, Cali, Medellin, Medellin, Florencia, San José del Guaviare and Leticia Guaviare between June and August 2021.



Tackling the waste problem

Food waste has been recognized as a pressing issue by both national and local authorities. In 2019, Colombia adopted Law 1990, which established a policy to prevent and reduce food loss and waste. The law promotes food donation as an important solution to food and nutrition security, and also introduced measures to reduce food loss and waste at every level of the supply chain. A measurement system is being overseen by the National Administrative Department of Statistics (DANE). The targeted sectors are agriculture, industry, food service and commerce, as well as households.

The National Circular Economy Strategy in Colombia also supports the goal of achieving sustainable waste management. DANE has been reporting progress through a set of indicators. Among the indicators, those related to organic waste can support food waste measurement throughout the country.

At the local level, through Agreement 753 of 2019,⁵ the Bogota Council created guidelines to prevent food loss and waste. According to the agreement, the city will promote awareness-raising, training and civic responsibility; establish institutional collaboration mechanisms; and promote strategies allowing the reuse of potentially edible food for animal consumption, composting or energy production.

Several partnerships have been promoted to tackle the problem, enabling the participation of a wide range of actors that are working towards halving food waste in the country. They include: the #SinDesperdicio initiative promoted by the Inter-American Development Bank

and supported by 11 food multinationals, NGOs and international organizations, which seeks innovative and impactful solutions that reduce food loss and waste; the Reagro programme led by Fundación Saciar and co-funded by Grupo Éxito through which perishable food is destined to composting processes; and Alpina's Buen Provecho initiative, which seeks to optimize food handling together with producers, among others.

In addition, the city of Bogota has been working closely with Región Central (RAPE), which includes Bogota, Cundinamarca, Meta, Boyaca and Huila, given the amount of food that enters the capital from these regions. In addition, the Mayor's Office of Bogota and RAPE, together with the Economic Institute for Social Economy, Administrative and Special Services Unit, as well as the Association of Food Banks and Logyca, are strengthening their efforts to reduce food waste in the marketplace. This partnership is relevant considering the amount of food that is sold in local markets, which amounts to 96,000 tons of food every year.⁶

Since 2020, Bogota's Secretary of Economic Development celebrates Food Loss and Waste Awareness Week to raise awareness about the problem and showcase existing partnerships, initiatives and programmes.

⁵Agreement 753 of 2019 (in Spanish), <https://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=88005>.

⁶Distrito formaliza alianza para reducir pérdidas y desperdicios de alimentos, <https://bogota.gov.co/mi-ciudad/desarrollo-economico/alianza-para-mejora-de-residuos-en-las-plazas-distritales-de-mercado>.



Role of green and digital technologies

When considering digital technologies, evidence shows that efforts are concentrated in apps designed to support both producers and consumers to reduce food loss and waste. Different types of technologies have been developed, ranging from repurposing food waste such as SCP Alimentación Animal Ecológica, Salva, Sticky Snacks and Zeotropic, to apps aimed at strengthening engagement between producers and consumers, including Toc-Toc and Siembra Co.

Despite the positive developments, entrepreneurs face different barriers mainly due to limited technical capacities and lack of investment. Therefore, measuring

the impact on reducing food waste is not a common practice, either because some of the actors are in the business model validation stage and have not started operations, or due to limitations in technical knowledge and technologies for impact measurement.

To address this challenge, the United Nations Environment Programme (UNEP), with the support of the University of Los Andes and within the context of the Green Tech Project, launched #SinDesperdicio Bogota, a programme focused on strengthening the entrepreneurial skills of a group of nine start-ups.



The way forward

National and local governments can expand their economic and financial instruments (primarily focused on food losses) to consumer food waste, including circularity as a key enabler to prevent and reduce food waste. Traditionally, the approach taken is concentrated on food banks and donations.

It is equally important to continue the consolidation of the National Measurement System of Food Loss and Waste in compliance with the respective Food Loss and Waste indexes (FAO and UNEP).

As the most important city in Colombia, Bogota has the potential to continue fostering the collaboration of different actors, including the private sector, academia, consumer associations, representatives from the food industry and public authorities, which can then be replicated in the country. These partnerships should

create space for inter-sectoral collaboration that connects relevant parallel agendas, including food security, sustainable consumption and production, circular economy and waste management.

There is an opportunity to take the discussion on food loss and waste to the household level, making the argument of how it relates to climate change, biodiversity loss and pollution. This can be done by using existing data to raise awareness on the specific impacts of food waste, including CO2 emissions and economic impacts on family income.



Project partners



This summary was prepared for the project "Using Green and Digital Technologies to Reduce Food Waste at Consumer Level" led by UNEP. More information about the project can be found at: <https://www.unep.org/explore-topics/green-economy/build-back-better>

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