Food Waste in Urban Households of the Argentine Republic

Study conducted by the National Plan to Reduce Food Losses and Waste from the Secretary of Agriculture, Livestock and Fisheries, through a technical cooperation with the Inter-American Development Bank under the consultancy of the Center for Child Nutrition Studies (CESNI).

Objective: To quantify food waste (FW) in urban households in Argentina and analyze perceptions regarding FW.

Methodology: A quantitative study adapting the level 3 measurement methodology of UNEP.

Progression of tasks involved in recruiting participants and conducting the study

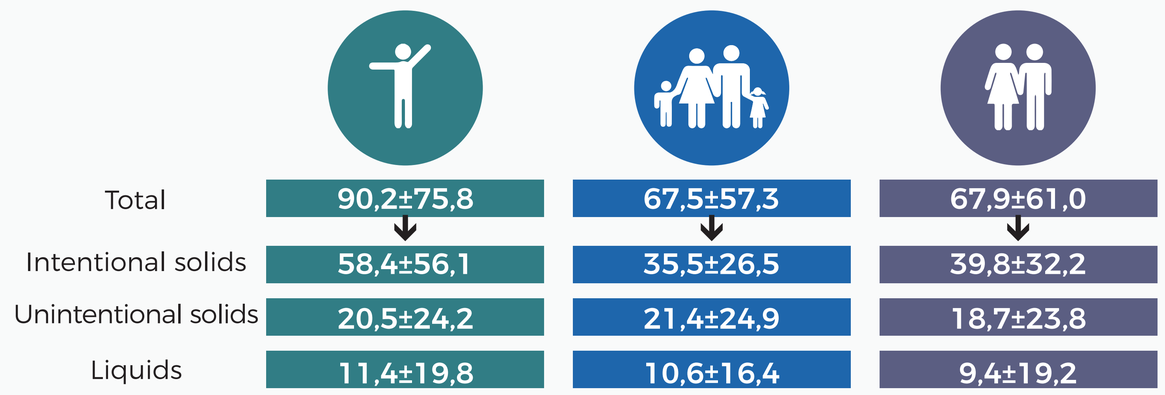
1. **Recruitment and selection:**
   A process of recruiting households was carried out, selecting those that met the study requirements.
2. **Virtual training:**
   Selected participants received online training to ensure the correct implementation of the methodology.
3. **Initial evaluation:**
   The participants' level of understanding was evaluated through a test prior to the start of the study.Those who answered at least 60% of the questions correctly gained access to the platform to participate.
4. **Household characterization:**
   Households completed a questionnaire covering sociodemographic aspects, grocery shopping and consumption habits.
5. **Kit delivery:**
   A kit was provided to each household containing: 1 digital scale (1 to 10 kg), 3 containers for waste, 2 stickers to label the containers, a printed instruction manual, and a QR code for digital access. They were also given access to the data input platform.
6. **Data collection:**
   Households recorded the daily weight of their waste for 7 days, classifying and logging it as intentional or unintentional waste, and filled out a waste journal detailing the final destination of the discarded items. They informed FW during preparation, consumption.

Intentional solids	Non intentional solids	Liquids
Parts of food that the household or individual does not consider edible and habitually discards, regardless of whether they are actually edible or not.	Parts of food that the household or individual considers edible and usually consumes, but for various reasons were discarded.	Liquid foods that the household considers drinkable and usually consumes, but for various reasons were discarded. This includes infusions, milk, drinkable yogurt, soup, broth, sauces, beverages other than water, and vegetable oils.
Yerba mate, used coffee grounds, tea leaves, herbs used for making tea, tea bags, cooking water, and water or soda were excluded.		

Main Results:

The FW was 71.9 kg per capita per year, of which 58% corresponded to intentional solid waste, 28% to unintentional solid waste, and 14% to liquids. The total food waste of all household was 198Kg per household per year. It was observed that vegetables and fruits account for two-thirds of the waste (Figure 1).

Figure 1: Total annual food waste (Kg) per household by type of waste (total value/SD)



When analyzing the waste of each group by stage, it is evident that the largest proportion of egg, vegetable, fruit, and meat waste occurs during preparation, while for the groups of meals and drinks and infusions, it happens during consumption, with other groups sharing stages (Figure 2).

Figure 2: Total percentage of different food groups wasted at all consumption stages (%)

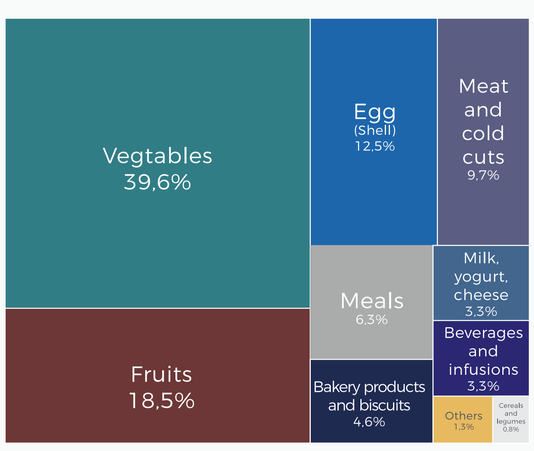
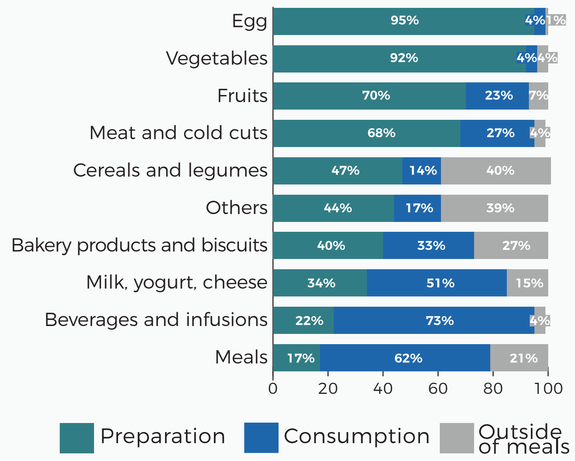
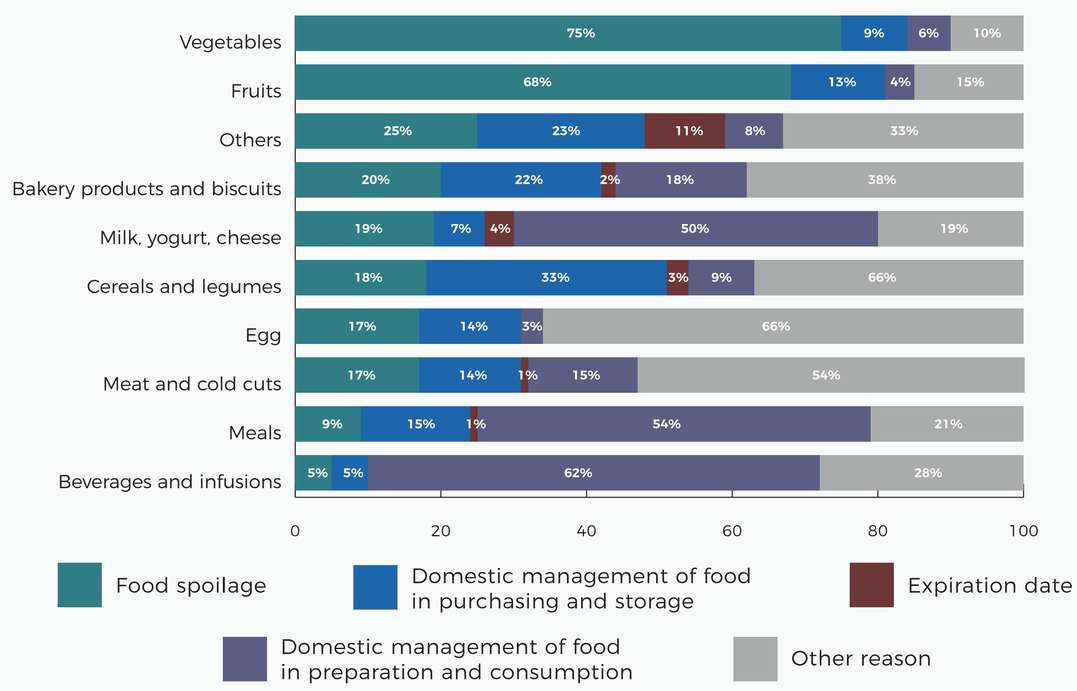


Figure 3: Food waste by food group according to consumption stage (during preparation, after consumption, and outside of meals) (%)



Among the reasons cited for unintentional waste, food spoilage accounts for 34.7%, followed by domestic management during preparation and consumption at 27.2%, and management in purchasing and storage at 13.2%. Other reasons make up 23.4%, while expiration accounts for only 1.4%. When analysing waste reasons by food group, it is noted that the main reason for vegetables and fruits is spoilage, while management in purchasing and storage, as well as preparation and consumption, shares reasons across other food groups (Figure 4).

Figure 4: Reasons for food waste by food group (%)



When analyzing the amount of waste recorded in relation to the perception of the quantity of waste generated in the household, a correlation between perception and data is evident: households that perceive they generate a low amount of waste are indeed the ones that produce less total waste, while those that believe they generate a lot of waste show the highest levels of waste. It is also noted that individuals who express greater concern about the amount of waste tend to have higher values.

Conclusion:
This study provides data on the various types of waste generated in households, indicating that the largest proportion corresponds to intentional waste. Furthermore, the remaining 42% consists of waste with a high potential to be reduced or avoided through waste reduction policies in households.
The results provide the first baseline for FW in this sector and report the Food Waste Index (FWI) in urban households in alignment with SDG target 12.3.

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