CAISAN
CÂMARA INTERMINISTERIAL DE SEGURANÇA ALIMENTAR E NUTRICIONAL

MINISTÉRIO DO
DESENVOLVIMENTO
E ASSISTÊNCIA SOCIAL,
FAMÍLIA E COMBATE À FOME

GOVERNO DO BRASIL
DO LADO DO POVO BRASILEIRO

II Intersectoral Strategy for **Reducing Food Losses and Waste in Brazil**

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

Brasília, **September** 2025

CIP - Cataloging in Publication

Brazil. Ministry of Social Development and Fight Against Hunger.
II Estratégia Intersetorial para a Redução de Perdas e Desperdício de Alimentos no Brasil. -- 1. ed. -- Brasília, DF: MDS; Câmara Interministerial de Segurança Alimentar e Nutricional, 2025.
PDF

Several collaborators.
ISBN: 978-65-01-36479-7

1. Food - Social aspects. 2. Right to food - Brazil. 3. Fundamental social rights. 4. Public health policies. 5. Public health. 6. Food safety. I. National Secretariat for Food and Nutritional Security.

CDD-613.2

Prepared by the Automatic Cataloging Card Generation System with the data supplied by the authors.

Realization:

Federal Government

Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS

Interministerial Chamber for Food and Nutritional Security - Caisan

National Secretariat for Food and Nutritional Security - SESAN/MDS

MINISTERIAL PLENARY

Ministry of Development and Social Assistance, Family and Fight Against Hunger - Presidency
JOSÉ WELLINGTON BARROSO DE ARAÚJO DIAS

General Secretariat of the Presidency of the Republic
MÁRCIO COSTA MACÊDO

Civil House of the Presidency of the Republic
RUI COSTA DOS SANTOS

Ministry of Finance
FERNANDO HADDAD

Ministry of Planning and Budget
SIMONE NASSAR TEBET

Ministry of Agrarian Development
LUIZ PAULO TEIXEIRA FERREIRA

Ministry of Health
ALEXANDRE ROCHA SANTOS PADILHA

Ministry of Education
CAMILO SOBREIRA DE SANTANA

Ministry of Agriculture, Livestock and Food Supply
CARLOS HENRIQUE BAQUETA FÁVARO

Ministry of Labor and Employment
LUIZ MARINHO

Ministry of Fisheries and Aquaculture
ANDRÉ CARLOS ALVES DE PAULA FILHO

Ministry of Environment and Climate Change
MARIA OSMARINA MARINA DA S.VAZ DE LIMA

Ministry of Human Rights and Citizenship
MACAÉ MARIA EVARISTO DOS SANTOS

Ministry of Women
MÁRCIA HELENA CARVALHO LOPES

Ministry of Racial Equality
ANIELLE FRANCISCO DA SILVA

Ministry of Indigenous Peoples
SONIA BONE DE SOUSA SILVA SANTOS

Ministry of Foreign Affairs
MAURO LUIZ IECKER VIEIRA

Ministry of Cities
JADER FONTENELLE BARBALHO FILHO

Ministry of Integration and Regional Development
ANTÔNIO WALDEZ GÓES DA SILVA

Ministry of Science, Technology and Innovation
LUCIANA BARBOSA DE OLIVEIRA SANTOS

Ministry of Social Security
WOLNEY QUEIROZ MACIEL

Ministry of Culture
MARGARETH MENEZES DA PURIFICAÇÃO COSTA

Ministry of Justice and Public Security
ENRIQUE RICARDO LEWANDOWSKI

Ministry of Management and Innovation in Public Services
ESTHER DWECK

EXECUTIVE PLENARY

Ministry of Social Development and Fight Against Hunger

VALERIA BURITY

LILIAN DOS SANTOS RAHAL

General Secretariat of the Presidency of the Republic

KELLI CRISTINE DE OLIVEIRA MAFORT
ANA MARIA CORREA CONEGUNDES

Civil House of the Presidency of the Republic

PEDRO HELENA PONTUAL MACHADO
DANIELLE CHALUB CORES

Ministry of Finance

GILSON BITTENCOURT
DAIANE RAMON DE ALCÂNTARA

Ministry of Planning and Budget

DANYEL IÓRIO DE LIMA
FÁBIO REGIS SPARREMBERGER

Ministry of Agrarian Development

FERNANDA MACHIAVELI
MARINA GODOI DE LIMA

Ministry of Health

KELLY POLIANY DE SOUZA ALVES
JANNE RUTH NUNES NOGUEIRA

Ministry of Education

FERNANDA MARA DE O.M.C. PACOBAHYBA
KARINE SILVA DOS SANTOS

Ministry of Agriculture, Livestock and Food Supply

PEDRO ALVES CORRÊA NETO
CARLOS GOULART

Ministry of Labor and Employment

GILBERTO DE CARVALHO
IRACEMA FERREIRA DE MOURA

Ministry of Fisheries and Aquaculture

CRISTIANO WELLINGTON NOBERTO RAMALHO
DIEGO MARTINS NUNES

Ministry of Environment and Climate Change

ÉDEL NAZARÉ SANTIAGO DE MORAES DANIEL
PETER BENIAMINO

Ministry of Human Rights and Citizenship

JANINE MELLO DOS SANTOS
MARINA FARIAS REBELO

Ministry of Women

ROSANE DA SILVA
SANDRA KENNEDY VIANA

Ministry of Racial Equality

RACHEL BARROS DE OLIVEIRA
RAFAEL CENTENO DE REZENDE

Ministry of Indigenous Peoples

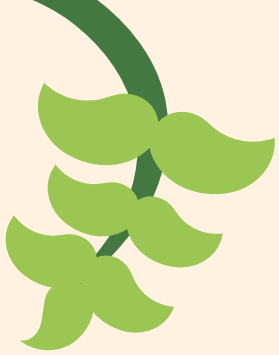
JECINALDO BARBOSA CABRAL
CRISTIANO MARIOTTO TUPAN

Ministry of Foreign Affairs

SAULO ARANTES CEOLIN
PAULO GUAPINDAIA JOPPERT

Ministry of Cities

LUIZ PAULO DE OLIVEIRA
FRANCISCO JOSUÉ MEDEIROS DE FREITAS



Ministry of Integration and Regional Development

ALEXANDRE BASTOS PEIXOTO
WELLYNGTON SABDRELLY CALDAS FERREIRA

Ministry of Science, Technology and Innovation

SÔNIA DA COSTA
FERNANDA GOMES RODRIGUES

Ministry of Social Security

RAFAEL GOMES FRANÇA
LUCIANO GARCIA LOURENÇÃO

Ministry of Culture

MÁRCIA HELENA GONÇALVES ROLLEMBERG
CAROLINA GONÇALVES DE FREITAS

Ministry of Justice and Public Security

SHEILA SANTANA DE CARVALHO
PRISCILLA DOS SANTOS ROCHA

Ministry of Management and Innovation in Public Services

YVES BASTOS ZAMBONI FILHO
REGINA LEMOS DE ANDRADE

Credits

Ministry of Development and Social Assistance, Family and Fight Against Hunger

Wellington Barroso de Araújo Dias

Extraordinary Secretariat for Combating Poverty and Hunger - Executive Secretariat of Caisan

Valeria Burity

Program Directors

Alexandre Arbex Valadares
Élcio de Souza Magalhães

General Coordinators

Thatiana Regina Favaro
Natália Gebrim Doria

National Secretariat for Food and Nutritional Security

Lilian dos Santos Rahal

Department for the Promotion of Adequate and Healthy Food

Patrícia Chaves Gentil

General Coordination of Food and Nutrition Security Equipment

Carmem Priscila Bocchi

Team of the General Coordination of Food and Nutritional Security Equipment

Alessandra Felix Vargas

Ana Flávia Abreu
Carmem Priscila Bocchi
Kamila Castro
Karla Lisboa Ramos
Luciana Gonçalves da Costa

Natália Araújo de Oliveira
Patrícia Metzler Saraiva

Coordination:

Carmem Priscila Bocchi
Gustavo Porpino de Araújo

Text Preparation:

Adalberto Maluf
Alberto Rocha
Alcione Pereira
Alessandra Felix Vargas
Alexandre Coelho Teixeira
Aline Figueiredo
Amanda da Silva Bastos de Oliveira
Ana Bárbara Zanella
Ana Carolina Souza
Ana Flávia de Abreu
Bruna de Oliveira
Bruna Pitasi Arguelhes
Camila Linche Gonçalves Lima
Camilo Eduardo Quintero
Carmem Priscila Bocchi
Cássio Araújo de Oliveira Rodrigues
Cecília Lobo Araújo
Clarita Guimarães Rickli

Claudia Márcia Ramos Roseno
Daiane Ramon de Alcantara
Daniel Dias Bezerra
Deise Menezes Ribeiro Fassio
Diógenes Alencar Bolwerk
Eder Eduardo Bublitz
Fernanda Romero
Gabriel Vicente Bitencourt de Almeida
Gisele Bortolini
Gismalia Luiza Passos Trabuco
Gustavo Chianca
Gustavo Porpino de Araújo
Henrique Martins Gianvecchio Carvalho
Israel Rios
Italo Ludke
Jaciara Zacharias da Silva
João Intini
José David Torres Gallardo
Juliana Martins Torres
Juliana Tangari
Kamila Castro Santos
Karine Silva dos Santos
Kelliane Fuscaldi
Lara Line P. de Souza
Laura Albano
Ligia Alves dos Santos
Lilian dos Santos Rahal
Lilian Uyema
Lilliane Fernandes
Liriam Ikeda Ribeiro Carelli
Luciana Gonçalves da Costa
Luciana Marque Vieira
Luciene Mignani
Luiz Henrique Bambini de Assis
Márcia Muchagata
Marcio Milan
Marcos David Ferreira
Marcus Peixoto
Marcus Vinicius de Miranda Martins
Maria Eduarda de Morais Lemos
Maria Siqueira
Mariana Belloni Melgaço
Miriam Isabel Engel
Murillo Freire
Najla Veloso
Natália Araújo de Oliveira
Natalia Tenuta
Nathália Dezidério Ramos Coêlho
Newton Araújo Silva Júnior
Nicol Barahona
Octávio Oliveira
Patrícia Gentil
Patrícia Metzler Saraiva
Priscila Socoloski
Rafaela Vieira
Renata Zago Diniz Fonseca
Rodrigo Perpetuo
Rodrigo Vargas
Roseli Zerbinato
Rosilene Ferreira Souto
Sara Granados
Semiramis Rabelo Ramalho Ramos
Sérgio Dorfler
Simone Silotti
Walter Belik
Warley Nascimento

General Review:

Carmem Priscila Bocchi
Gustavo Porpino de Araújo

Diagramming and Graphic Design:

Gabrielle Stoiani **ASCOM/MDS**

Photo:

Carmem Priscila Bocchi
Fernanda Romero
Gustavo Porpino de Araújo
Simoni Silotti

Revision and technical collaboration:

General Coordination of Food and Nutrition Security Equipment

Acronyms

A

ABC – Brazilian Cooperation Agency

ABRACEN – Brazilian Association of Supply Centers

ABRAS – Brazilian Supermarket Association

AIR – Regulatory Impact Analysis (RIA)

ANVISA – National Health Surveillance Agency

B

BA – Food Bank

C

CAISAN – Interministerial Chamber for Food and Nutritional Security

CCJ – Constitution, Justice and Citizenship Committee

CEAGESP – São Paulo Warehousing and General Storage Company

CEASA – Food Supply Centers

CECANES – Collaborating Centers for School Food and Nutrition

CGESAN – General Coordination of Food and Nutritional Security Equipment

CONAB – National Supply Company

CT FLW – Technical Committee on Food Losses and Waste (TC FLW)

D

DESAU – Department for the Promotion of Adequate and Healthy Food

E

EAN – Food and Nutrition Education

EMBRAPA – Brazilian Agricultural Research Corporation

EPA – US Environmental Protecion Agency

F

FAO – Food and Agriculture Organization of the United Nations

FGV – Getúlio Vargas Foundation

FNDE – National Fund for Educational Development

G

GT – Working Group (WG)

I

IBGE – Brazilian Institute of Geography and Statistics

ICLEI – Local Governments for Sustainability

IFPA – Federal Institute of Pará

IFSP – Federal Institute of São Paulo

M

MAPA – Ministry of Agriculture, Livestock and Food Supply

MCid – Ministry of Cities

MDA – Ministry of Agrarian Development

MDS – Ministry of Social Development and Fight Against Hunger

MF – Ministry of Finance

MMA – Ministry of Environment and Climate Change

MME – Ministry of Mines and Energy

MRE – Ministry of Foreign Affairs

MUNIC – Basic Municipal Information Survey

O

ODS – Sustainable Development Goals (SDG)

ONGs – Non-Governmental Organizations (NGOs)

P

PAA – Food Acquisition Program

FLW – Food Loss and Waste

PL – Bill of Law

PNAAB – National Food Supply Policy

PNAE – National School Feeding Program

PNCPDA – National Policy to Combat Food Loss and Waste

PNSAN – National Food and Nutrition Security Policy

PROHORT – Brazilian Program for the Modernization of the Horticultural Market

R

RAES – Latin American and Caribbean Sustainable School Feeding Network

RBBA – Brazilian Food Bank Network

RDC – ANVISA Collegiate Board Resolution

S

SAN – Food and Nutrition Security

SESAN – National Secretariat for Food and Nutrition Security

SESC – Social Service of Commerce

SINISA – National Basic Sanitation Information System

SINIR – National Solid Waste Management Information System

U

UFRJ – Federal University of Rio de Janeiro

UNEP – United Nations Environment Program

UNESP – São Paulo State University

Summary

Presentation

Reducing food loss and waste (FLW), in a global context of climate crisis, is an opportunity for multiple gains: for mitigating greenhouse gas emissions; for strengthening food and nutritional security; as well as for preserving biodiversity and the sustainability of our agri- food systems.

The transition from a linear economy to circular food systems requires action from farm to fork and understanding the interaction between the links in the food production chain. It also involves changing the behavior of the multiple actors involved in the production, distribution, and marketing of food, and the need to implement public policies aimed at strengthening sustainable food systems. Brazil' s immense geographical area, different socio-economic realities, and territorial particularities are inherent challenges in mitigating FLW.

In this context, and with an eye on the challenges and opportunities to reduce food loss and waste, promote access to healthy food and contribute to the sustainable management of organic waste, we have updated the Intersectoral Strategy on Food Loss and Waste in Brazil, published in 2018, through a broad process of discussion and elaboration within the National Caisan.

The II Intersectoral Strategy for Reducing Food Losses and Waste assumes that the theme of circular food systems creates the conditions for increasing the access of the Brazilian population, especially the low- income segment, to healthier food based on fresh or minimally processed foods. This approach is in line with the Presidential Decree

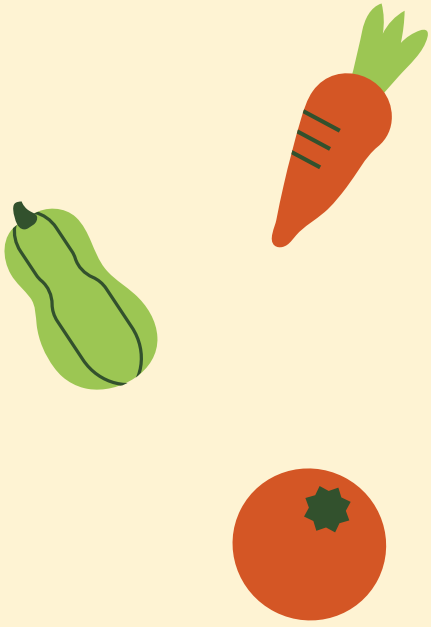
No. 11, 936, dated March 5, 2024, which redefines the composition of the basic food basket under the National Food and Nutrition Security Policy (PNSAN) and the National Food Supply Policy (PNAAB), reinforcing the commitment to guarantee the human right to adequate and healthy food and promoting food and nutritional sovereignty and security.

The idea that an end to food waste would bring an end to hunger is not supported by such a simple equation. We know that food donations significantly alleviate hunger and are a fundamental part of this strategy. However, solutions that affect the current food systems must be considered, seeking to increase access to healthy food, strengthen short production, supply, and consumption circuits, promote a circular economy, expand urban and peri- urban agriculture, and encourage supply and demand for family-farming food.

The II Intersectoral Strategy for Reducing Food Losses and Waste has many challenges to address from an integrated perspective, bringing together the public and private sectors, managers, and public policies on food and nutrition security and the environment.

Although it is not an easy task, the Working Group established within the Interministerial Chamber on Food and Nutrition Security (CAISAN) made a dedicated effort and took on the challenge of developing this Strategy and offering society a concrete proposal for reducing food loss and waste in Brazil.

INTERMINISTERIAL CHAMBER FOR FOOD AND NUTRITION SECURITY



1.

Introduction and Methodology

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

The issue of food loss and waste has a direct impact on the commitments made by countries in international and national strategic frameworks. In 2017, the Brazilian government and the Food and Agriculture Organization of the United Nations (FAO) joined forces to create the Technical Committee on Food Losses and Waste (CT FLW) within the Interministerial Chamber for Food and Nutritional Security (Caisan). This resulted in the publication of the Intersectoral Strategy for Reducing Food Losses and Waste in Brazil in 2018.

At the Caisan Executive Plenary meeting held on May 3, 2024, the creation of a Working Group (WG) was approved with the aim of updating the Intersectoral Strategy for Reducing Food Losses and Waste in Brazil, published in 2018.

The WG's work took place between April and November 2024, with a total of 6 meetings attended by experts, public managers, civil society and the private sector **(Annex 1)**.

The work carried out sought to:

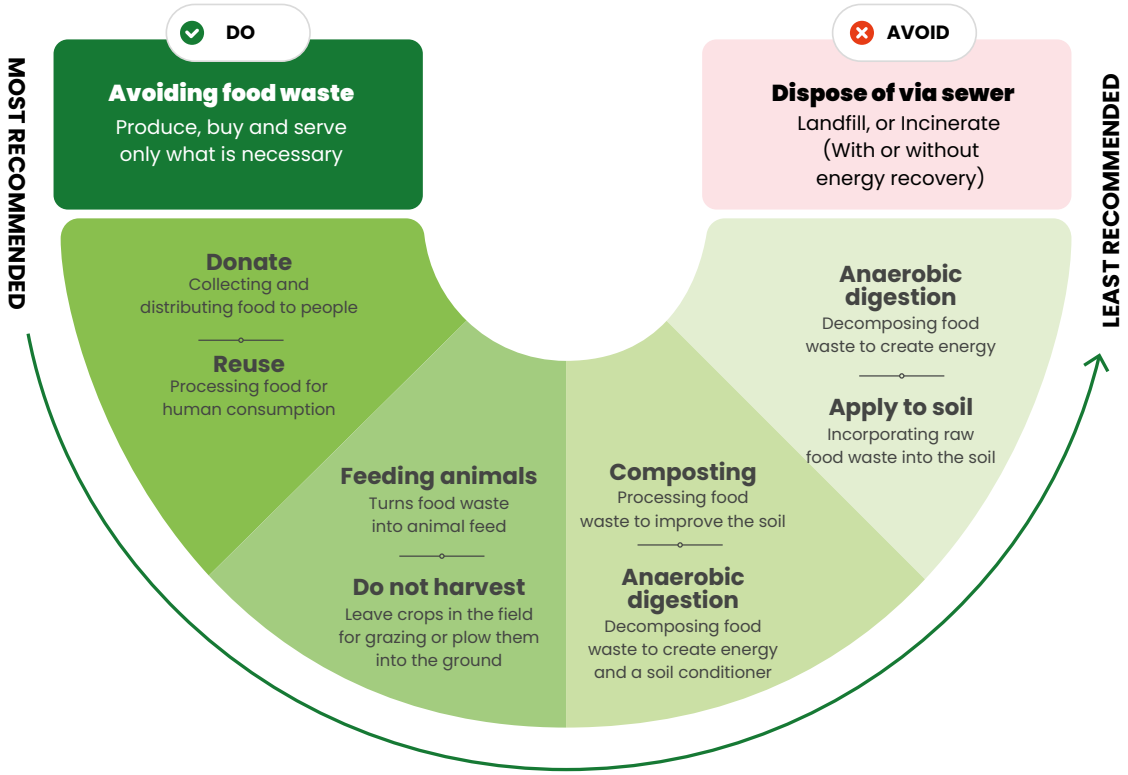
1. Recall the main discussions and resolutions of the previous Strategy;
2. Updating the Strategy with new evidences, perspectives, and challenges.

Given that FLW is a complex issue, its approach must be integrated, based on a hierarchy of: prevention, redistribution, animal consumption/reuse, recycling/composting, energy recovery, and disposal, covering the entire cycle of this process.

A figure produced by the United States Environmental Protection Agency (US EPA), called the *Wasted Food Scale*, shows the hierarchy of priorities that should be chosen to avoid the mere disposal of food in landfills **(Figure 1)**. Reducing environmental impact requires preventing waste by mitigating waste generation.

Circularity should be encouraged, preferably through donations or practices involving the use of by-products (upcycling). [1]

Figure 1. Food waste scales.



Source: Environmental Protection Agency, 2023.

Given this complexity, it was decided to organize 6 sub-working groups, divided as follows:

1. **Food losses during the Production/Post-harvest phase/ Food processing;**
2. **Losses and Waste in the Wholesale Market (Central Supply Centers);**
3. **Waste in the retail market (supermarkets, street markets, fruit and vegetables stores, etc.);**

1 https://www.epa.gov/sustainable-management-food/wasted-food-scale

4. **Waste at the consumption stage, including households, schools, and food services;**

5. **Cities;**

6. **Donation/Legislation/Food Banks.**

Each sub-group held four meetings between August and September 2024, seeking to examine and propose solutions for their specific issue. In all, including the subgroup meetings and the FLW WG meetings, around 30 meetings were held.

Based on the work carried out by the FLW WG, the II Intersectoral Strategy for Reducing Food Losses and Waste in Brazil, submitted in this document, was presented to Caisan on November 21, 2024.

2.

The Global Context of Food Loss and Wastes

Numbers and Challenges

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

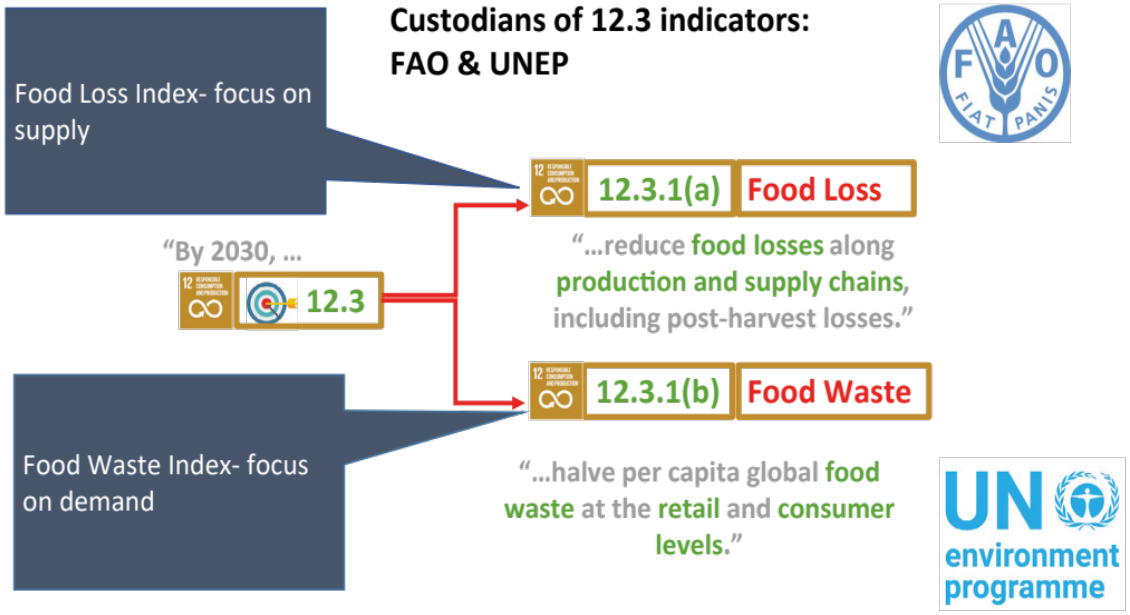
According to the FAO definition, losses refer to the reduction in food availability for human consumption throughout the food supply chain, including the post-harvest stages on the farm, storage, transportation, and processing. Food losses occurring at the end of the production chain (food services, retail, and final consumption) are called waste. This is mainly due to behaviors adopted in retail establishments, restaurants, and households , although problems at previous links in the production chain are also a cause of waste. Losses can derive from involuntary causes but can also be motivated by market factors that lead to the voluntary disposal of food by rural producers when there is an excess of supply or difficulties accessing the market. Waste is usually the result of behavior on the part of the final links in the production chain, but it can also result from deficiencies in infrastructure, management, or even inadequate practices in the field, which shorten the useful life of fresh food.

The challenge of reducing food loss and waste at a global level is represented in goal 12.3 of the Sustainable Development Goals (SDGs), which establishes the commitment to halve per capita food waste at the retail and consumer levels by 2030, in addition to reducing losses along the production and supply chains, including post-harvest losses.

Within the United Nations framework, it was established that the FAO and the United Nations Environment Program (UNEP) should share responsibility for monitoring SDG 12.3. The FAO is responsible for collecting and monitoring data on food losses, and the UNEP is responsible for collecting and monitoring data on food waste.

Figure 2 illustrates this division, which resulted in the creation of SDGs 12.3.1(a) and 12.3.1(b).

Figure 2. This division resulted in the creation of SDGs 12.3.1(a) and 12.3.1(b).



Source: Food Waste Index Report, 2024.

The latest data released by the FAO on goal 12.3.1a was in 2021. It shows that the percentage of global food loss in post- harvest, transportation, storage, wholesale, and processing is estimated at 13.2%. According to the FAO, this rate is very close to the value collected in 2020 and 2016 (13.3% and 13%, respectively). [2]

UNEP presented the figures related to waste in March 2024 through the *Food Waste Index Report 2024* [3]. According to the document, food is any substance - processed, semi- processed, or raw — intended for human consumption, including beverages and any substance used in the manufacture, preparation, or treatment of food. The definition of food

2 https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en

3 United Nations Environment Programme (2024). *Food Waste Index Report 2024. Think Eat Save: Tracking Progress to Halve Global Food Waste*. https://wedocs.unep.org/20.500.11822/45230

includes edible and inedible parts. Edible parts are those intended for human consumption. Inedible parts are those associated with the components of a food that are not intended to be eaten by humans, such as bones, peels, and stones.

Although there is no clear baseline for accurately calculating the levels of waste that should be halved, nor is there consensus on what constitutes "inedible parts" — a definition that varies according to each population's cultural habits — the *Food Waste Index Report* and other international publications are widely recognized as benchmarks.

The *Food Waste Index Report 2024* points out that in 2022, 1.05 billion tons of food (including inedible parts) were wasted, which amounts to 132 kg *per capita* and almost a fifth of all food available for consumption. Of the total wasted, 60% occurred at households, 28% in food services, and 12% in retail.

Food waste is responsible for around 8-10% of global greenhouse gas emissions and occupies approximately 30% of the planet's agricultural land. In addition, converting natural ecosystems into agricultural areas has been the main cause of habitat loss.

The document indicates that only four countries (Australia, Japan, the United Kingdom, and the United States) and the European Union have adequate food waste estimates to monitor SDG 12.3.1b.

Table 1, reproduced from the *Food Waste Index Report 2024,* shows global waste data.

Table 1: Estimates of global food waste in 2022.

Sector	Global Average (kg/capita/year)	2022 Total (million tons)
Household	79	631
Food Service	36	290
Retail	17	131
Total	**132**	**1052**

Source: Food Waste Index Report, 2024

.

3.

Context of Loss and Waste in Brazil

Numbers and Challenges

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

In Brazil, food losses and waste along the food chain have been the subject of various studies and research. However, a baseline or "official" methodology for this measurement has not yet been established.

Despite the efforts of the Brazilian Institute of Geography and Statistics (IBGE) to monitor food losses, especially those related to post- harvest, Brazil does not report data to the FAO on this indicator, which is linked to the fulfillment of SDG 12 . 3.1.

Regarding waste, we are getting closer to being able to measure it. In this regard, UNEP' s efforts to consolidate the collection and systematization of data in Brazil are noteworthy. The methodology used in the studies conducted in four Brazilian cities was based on the recommendations of the Waste Index Report in its 2021 edition, level 2 (UNEP, 2021). This level, in turn, makes it possible to generate primary data on food waste generation and meets the requirement to monitor waste at a national level, in line with SDG goal 12.3.

UNEP, supported by the Ministry of Environment and Climate Change (MMA), carried out a study on food waste in the city of Rio de Janeiro. The results showed that more than 60% of household waste is food, with an annual *per capita* rate of 77 kg. This data highlights the potential to help consumers reduce household food waste.

In the Food Waste Index Report 2024, Brazil was highlighted for its efforts to develop a potentially robust national index to monitor the evolution of household waste on an ongoing basis (annually). Gravimetry, the chosen methodology, was validated in a pilot study in Rio de Janeiro and subsequently applied in the cities of São Paulo, Brasília, and Osasco. Preliminary data collected in the three cities show that *per capita* food waste is similar to the average of 77 kg (year) in Rio de Janeiro.

Other attempts at measurement have also been made, notably the nationwide survey conducted by the Brazilian Agricultural Research Corporation (Embrapa) and the Getúlio Vargas Foundation (FGV) in 2018, which estimated annual household waste at 129 kg (41.6 kg *per capita*), considering only food leftovers discarded in households. This data was validated by UNEP and was included in the 2021 Global Food Waste Index. To compose the Index, the *per capita* average was adjusted by UNEP to 60 kg per year because the metodology used was not

gravimetric and was more subject to underreporting by respondents[4].

A study based on gravimetry carried out in São Paulo's street markets estimated that 18,400 tons per year are wasted in street markets. The most discarded foods were leafy vegetables, tomatoes, bananas, and oranges (Brancoli et al., 2022). In Recife, a study by Embrapa and partners estimated the amount discarded by street markets at 924 tons per year[5]. In Curitiba, the estimate in the same study was 869 tons (year). In both cities, tomatoes were the most discarded food at street markets.

Also noteworthy is the operational efficiency survey carried out by the Brazilian Supermarket Association (ABRAS). According to ABRAS, supermarkets discarded the equivalent of R$4.1 billion worth of fruit and vegetables in 2023. The foods most wasted by supermarkets were tomatoes, bananas, leafy vegetables, onions and oranges.

4 https://www.infoteca.cnptia.embrapa.br/infoteca/handle/doc/1105525

5 https://www.alice.cnptia.embrapa.br/handle/doc/1156846

4.

Diagnosis and Proposals by Supply Chain Link

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

4.1 Food losses during the Production/Post-harvest phase/ Food processing

4.1.1 Diagnosis

Brazil lacks conceptualization and common (or unified) metrics for measuring pre- and post- harvest losses. Furthermore, it would be important to have a methodology for Brazil that differs from the metrics used by the FAO and the European Union, since these do not account for losses that occur before harvest. It is understood that the food produced and not harvested, for various reasons, involves significant losses, as water, energy, agricultural inputs, and labor were used in production.

In addition, losses in the field are only reported for SDG 1.5 related to climate (extreme events), but can also be due to a lack of market access. For the Brazilian context, in which market factors can have a major impact on fruit and vegetable losses, resulting in part of the production being lost while still in the field, it is important to have metrics that include pre-harvest losses.

Added to this is a lack of funding for research projects, as well as the failure to implement an agenda to prevent food loss and waste, and the lack of training, awareness, and sensitization of the actors involved in the supply chain on this issue.

4.1.2 Advances and Resources Available

- Interaction and connection (albeit low) of the various actors involved in the problem.

- Knowledge is available in key areas, and some case studies are in progress.

- There are proposals for indicators to measure losses in the field.

4.1.3 Strategies and Next steps

- Adjust the concept of food losses to the Brazilian reality, including the losses of edible foods before the farm gate due to market failures.

- Obtain financial resources for research projects and mapping of best practices, staff training, and data collection.

- Training for producers and workers along the production chain, focusing on post-harvest food handling and distribution.

- Strengthen coordination between IBGE, Embrapa, the Ministry of Agriculture, Livestock, the Ministry of Agrarian Development (MDA), the National Supply Company (CONAB), and FAO, among other players, to resume studies on measuring losses.

- Developing an index of losses by crop or production chain, prioritizing 3 to 6 crops from relevant production chains for initial studies, such as fruit, vegetables, and legumes, which, in addition to having the highest loss rate, are essential foods for guaranteeing adequate and healthy diets.

- Establish working groups for continuous discussion, involving producers and research organizations.

- Investing in infrastructure, technology, and research.

4.2 Losses and Waste in the Wholesale Market (Food Supply Centers)

4.2.1 Diagnosis

According to information from CONAB's PROHORT Program (internal data), Brazil currently has 70 Food Supply Centers (Ceasas) or small warehouses throughout Brazil. Of these, around 70 % have food banks, according to an internal survey carried out by the General Coordination of Food and Nutritional Security Equipment (CGESAN) of the National Secretariat for Food and Nutritional Security (SESAN/ MDS). Among these Ceasas is the Companhia de Entrepostos e Armazéns Gerais de São Paulo (CEAGESP), considered to be the largest central supply center in Latin America. It sells more than 3 million tons of food a year from all over the federation and even from other countries.

It is estimated that the volume of food losses/ waste at the Ceasas is quite significant when the volumes are considered. Still, there is a lack of quantifications based on nationwide gravimetry.

In addition to the deficiencies in infrastructure and the use of inadequate packaging to store and transport *fresh* food, it is considered that the current quality standards established end up encouraging food waste, since they prioritize food with full visual quality to the detriment of food with minor defects, even if they are fit for consumption. The rural producer, pressured by aesthetic standards and logistical costs,

also leaves considerable volumes of food in the field, especially when there is an excess of supply and the price to be paid for production drops significantly. These market issues, recurrent in the national vegetable production scenario, need to be evaluated as a factor in food loss, even though the current FAO index does not include this type of problem.

4.2.2 Advances and Resources Available

- Some of the Ceasas in Brazil have food banks (BA) or other forms of donation.

- Some Ceasas are investing in other ways of using organic waste, such as composting and biogas production.

- The issue of food losses and waste can promote interdisciplinary action since all the technical areas of the Ceasas have the potential to interact with it.

- There is already a engagement with academia, research institutions, and civil society to foster a productive dialog aimed at improving processes.

- The existence of associations and networks such as the Brazilian Association of Supply Centers (ABRACEN) and the Brazilian Food Bank Network (RBBA) promotes discussion and the presentation of proposals on the subject.

- The current focus of the Ministry of Social Development and Fight Against Hunger (MDS) is to support food banks and those located in Ceasas. [6]

6 Public Notice 01/2024, published in the DOU of 10/17/2024, aimed to modernize food banks linked by public administration bodies (states, municipalities, the Federal District, and/ or public consortia), prioritizing those located in Ceasas and municipalities participating in the Alimenta Cidades Strategy

4.2.3 Strategies and next steps

- Promoting Circular Economy and Waste Management practices at Ceasas, such as drawing up action plans for sustainable organic waste management at Ceasas, with examples of best practices implemented.

- Training for permission holders and Ceasas technicians on food handling and storage.

- Modernization of the Ceasas, through a survey of the main needs and opportunities to improve the use of the cold chain, packaging, box banks, infrastructure for receiving and transporting cargo, etc.

- Mapping of opportunities, considering the specificities of each Ceasa and local peculiarities, for installing Food and Nutrition Security (SAN) equipment in these spaces (e.g., popular restaurants, solidarity kitchens, food banks, urban harvesting initiatives for other BA).

- Build processes aimed at tackling losses and waste in the Ceasas using systems, applications, and other relevant technological devices.

- Drawing up action plans to quantify food waste at the Ceasas, employing gravimetric analysis with categorization by product and estimation of the avoidable portion.

- The use of technologies, such as a virtual trade counter, to reduce the loss of rural producers aims to bring the consumer chain closer together.

- Some Ceasas encourage farmer's market (direct selling) for smallholders.

- Investment is needed to improve storage conditions in supply centers, including using the cold chain.

4.3 Waste in the retail market (supermarkets, street markets, fruit and vegetables stores, etc.)

4.3.1 Diagnosis

Waste in the retail sector has multiple causes. Firstly, there is the problem of long food supply chains, often with more than one level of cargo transfer. Most vegetables and fruits are transported long distances and arrive at the retail store with a short shelf life. There are also problems related to harvesting and post-harvesting, such as inadequate handling. In addition, road transportation on poorly maintained roads leads to greater physical damage and reduces the useful life of these products.

Additional factors contributing to waste in retail include: 1. Inefficient stock management and demand planning; 2. Inadequate storage and display of food and packaging; 3. Incorrect handling due to training failures and customer habits; 4. Rejection of food due to aesthetic requirements; 5. Lack of knowledge of alternatives for disposing of waste.

A recurring issue regarding waste in retail is the expiration date. In Brazil, the expiry date is mandatory information on the labels of most packaged foods. It informs consumers of the date by which the product, under the manufacturer's indicated storage conditions, maintains its quality and health safety properties. Other members of the food chain also use this date to control products' sanitary conditions, contributing, for example, to efficient stock management.

The Consumer Protection Code states that products whose expiry date has passed are unfit for consumption and use. In addition, Law No. 6,437, dated

August 20, 1977, classifies as a health violation the import, export, display for sale, or delivery for consumption of health-related products whose expiration date has passed, or the placement of new expiration dates after the expiration date has passed.

Other types of dates can be declared on food labeling in addition to the expiry date. The date of manufacture and the date of packaging help the consumer identify the product's freshness, but do not tell them how long the food will last. Therefore, its declaration is more relevant for products with a short shelf life, such as ready-to-eat foods and bakery products.

In Brazil, the declaration of the date of manufacture or packaging is not mandatory on most packaged foods. However, according to Article 30 of Collegiate Board Resolution (RDC) No. 727, of July 1, 2022, manufacturers can use these dates to identify the batch of the product.

Some countries allow other dates to be declared on labels, such as the sell *by date*. This date indicates when the retailer should sell the product to ensure that the consumer still has time to consume it in good condition. It is useful in stock management. However, it does not indicate the food's durability; therefore, if it is declared, it is recommended that it be coded to avoid confusion among consumers. This date type is common in the United States, but is not regulated in Brazil.

Another type of date used in several countries, such as the members of the European Union, Canada, Australia, and New Zealand, is the *best before date*. It indicates the end of the period in which the product retains its quality characteristics, but does not indicate durability. In countries that adopt this date, the date marking system requires packaged food to bear one of the following dates:

a) *use by date* for foods that may undergo changes in safety parameters and are prohibited from being sold after their expiration date; or

b) best before date for foods that only undergo changes in their quality parameters, allowing them to be sold after that date.

This approach has not been adopted in Brazil and the other Mercosur countries, and its implementation has created challenges for manufacturers, retailers, regulators, and consumers:

a) in foods labeled only with the best before date, the consumer does not receive information about the durability of the food after that date, which can represent a health risk;

b) different factors simultaneously and complexly affect quality and safety attributes, making it difficult to clearly classify the type of change for the declaration of dates. For example, while the reduction of a vitamin could be classified as a quality change in most products, this change would be a safety issue in foods for individuals with specific nutritional needs, such as infant formulas or enteral formulas, and

c) evidence suggests that the declaration of different dates for different purposes on labels creates confusion among consumers. This confusion results in health risks from consuming food with an expired date and waste from discarding products that are still safe for consumption but with an expired best before date.

4.3.2 Advances and Resources Available

- Data issue:
  - This is a positive point for retailers, as ABRAS has a history of quantifying waste in supermarkets every year.
  - Disaggregated data can give an interesting view in terms of volumes of what is most discarded in supermarkets. There are no data records for small business or street market.
  - Brazil has already validated the gravimetry methodology to quantify waste at street markets. For example, studies by Embrapa, the Swedish Environmental Protection Agency, and São Paulo State University (Unesp) have already quantified food waste at street markets in Curitiba, Recife, Rio Branco, Ribeirão Preto, and São Paulo.

- Observations made in Rio Branco (AC) in the Cities and Food project: the disposal of dry food from supermarkets at the city's waste treatment plant drew attention, with a monthly average of 112 tons of food, mainly rice, beans, and pasta. There is a need to better understand this disposal type, which is unrelated to shelf life.

- Redistribution: we have several structured and connected actors to deal with the redistribution of food in the country: donors, recipients (Food Banks), facilitators (startups that aim to facilitate the link between donor and beneficiary), and the social assistance organizations that receive the food.

- Best purchasing planning practices, preventive maintenance of equipment, training and technical education, food reuse, and processing.

- Social selling: optimizing the product's life cycle by lowering its price close to expiry.

- Opportunity to add "imperfect" products.

4.3.3 Strategies and next steps

- Creating a more favorable regulatory environment to curb waste with a view to correctly disposing of unmarketed food.

- Promote studies to assess the possibility of imposing fees and granting tax benefits to large generators of organic waste, penalizing or benefiting their actions.

- Continuing studies and measurement projects. Proposal to capture detailed data from the top 50 food retailers, gradually expand the number of chains, and then move on to an official source of information - IBGE or a government agency.

- Communication and training reinforce the importance of reducing food waste and making the most of it, as well as the positive economic, social, and environmental impacts.

- Using technologies to improve operational efficiency, leveraging and scaling positive impact.

- Focus on the "Fruit and Vegetables" category as an opportunity to address the largest volumes of waste in all formats: retail, fairs, and fruit and vegetable shops.

- Encouraging short marketing circuits in urban centers.

- Accelerating FLW reduction with problem-solving, measurement, and awareness tools.

4.4 Food waste at the consumption stage: households, restaurants, schools, and other food services

4.4.1. Diagnosis

Food waste in Brazil at the household level is high. According to the *Food Waste Index Report 2024*, a study carried out in the city of Rio de Janeiro found that, on average, 212 grams are wasted per person/ day or 77 kg per person/ year in households. These rates are very close to the global average presented in the same report, of 81 kg per person/year.

In schools, food waste is not often measured, but the causes, consequences and measures to reduce it have already been mapped in various initiatives, including the actions promoted by the Sustainable School Feeding Network (RAES), an initiative of the Brazilian Cooperation Agency (ABC) of the Ministry of Foreign Affairs (MRE) and the National Fund for Educational Development (FNDE), with support from the FAO, under the project "Consolidation of School Feeding Programs in Latin America and the Caribbean". RAES seeks to support countries in implementing and reformulating school feeding programs, based on access and guaranteeing the human right to adequate food.

Law No. 11, 947 of 2009, which regulates the National School Feeding Program (PNAE), although it doesn't deal directly with food loss and waste, does define that at least 30% of the federal funds allocated to the program must be used to purchase food from family farms, prioritizing local production. This measure contributes to reducing waste by encouraging the consumption of products produced close to schools and seasonal, strengthening the short food supply chains, which minimizes the risk of losses in transport and logistics .

The same legislation establishes the inclusion of food and nutrition education (EAN) in the teaching and learning process, promoting the theme of healthy and sustainable eating and the development of healthy lifestyle practices, from the perspective of food and nutrition security. In addition to the regulations in force, the FNDE has integrated the issue of food loss and waste into specific initiatives, materials, and documents.

Within the School Feeding and Nutrition Collaborative Centers (Cecanes) framework, products and actions are being developed to address this issue directly, raising awareness and promoting best practices in the use of food in school meals.

Regarding waste in food services, there was little knowledge about the volume wasted, the role of the different actors, and the biggest and best opportunities for mitigating or redistributing food.

Programs developed by Popular Restaurants and University Restaurants can serve as examples and best practices to be reproduced.

4.4.2. Advances and Resources Available

- Measurement of household FLW volume underway via UNEP/PNUMA.
- Specific consumer surveys.
- Initiatives in schools.
- Tools for maximizing school feeding management.

4.4.3 Strategies and next steps

- **RESEARCH**
    - The need for regular surveys to detect trends.
    - Measuring household waste: Complement current UNEP/PNUMA studies with a consumer panel to analyze regional differences, socioeconomic variables, and behavioral variables.
    - Setting up action plans to measure waste in food services.

- Investigate consumer behavior to understand home and away-from-home FLW volume drivers and mitigators.

EDUCATION - AWARENESS - TRAINING

- Development of campaigns/materials to raise awareness and educate consumers at various purchase places.

- Develop campaigns and materials aimed at school cooks and food service workers to raise awareness and train them to maximize food use.

- Application and/or repository of information and tips on how to reduce FLW in different scenarios. The content should include shopping (list), quantities, storage and preservation tips, recipes, ways to make better use of all the food (emphasis on fresh), preparation recipes, recipes for using leftovers, etc.

- Development of games to provide users with information and knowledge about the reduction of FLW.

SCHOOL MEALS

- Improving the public procurement process with a focus on local foods; improving stock management and food storage; and encouraging preparation with full use.

- Implement policies to raise awareness about food waste in order to reduce the amount of organic waste generated. This can include educational campaigns, the inclusion of EAN and environmental education in the school curriculum, adjustments to the menu to make better use of food, and the promotion of conscious consumption.

- Implement educational school gardens: school gardens are tools that encourage the use of compost produced from organic waste. This creates a sustainable cycle in which food is grown, consumed, and the treated waste returns to the soil.

- Establish (school) partnerships with local organizations, such as urban farms or composting companies, to manage organic waste efficiently.

5.

Diagnosis and Proposals by Theme

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

5.1 Cities

5.1.1. Diagnosis

Reducing FLW is a topic that local governments have not worked on enough. The climate and food and nutrition security agendas have grown in recent years, but the issue of FLW has not been able to be linked to these agendas in a more forceful way.

It can also be seen that, despite public policies to support family farming production and other policies that favor production and consumption through short marketing circuits (Food Acquisition Program - PAA, PNAE, SAN equipment), the model of long production and consumption circuits still prevails.

It also appears that municipal administrations tend to understand local public policy action aimed at combating food waste in a narrower sense, focusing mainly on food bank initiatives. There is also a lack of municipal plans, mapping, and periodic measurements, and little understanding of FLW by public administrations. However, local governments have to deal with the problems related to the large amount of waste generated, whether at fairs, markets, Ceasas, or in households.

5.1.2 Advances and Resources Available

- Potential to include FLW actions in the Alimenta Cidades [Food for Cities] Strategy (MDS) and the Urban Organic Waste Strategy (MMA) through training so that interested cities can carry out a local diagnosis of waste hotspots and outline action plans.

- Cities' potential interest in organic waste composting programs.

- The Cozinha Solidária (Solidarity Kitchen) Program, which has 800 qualified kitchens and food banks, can be a training tool.

- Various urban and peri-urban agriculture initiatives with the potential to connect with FLW.

- Best "circular" practices in Curitiba (e.g., connection between vegetable gardens and urban farms with food banks), Maricá (e.g., dehydration factory), Recife (e.g., Recolheita project to put waste from street markets to good use), and São João Del Rey (e.g., Colheita Solidária program to prevent losses in the fields), among other cities, have potential for scalability.

- Studies by the FAO/Local Governments for Sustainability (ICLEI)[7], Embrapa/ Comida do Amanhã [8], the Federal University of Rio de Janeiro (UFRJ)/ Cidade de Colônia [9], the Ellen MacArthur Foundation [10], and others have data on circular food systems.

7 https://americadosul.iclei.org/documentos/guia-para-gestores-publicos-sistemas-alimentares-circulares-na-america-latina-2023/

8 https://www.alice.cnptia.embrapa.br/handle/doc/1156846

9 Vaz e Alves et al. Análise preliminar da fração orgânica dos resíduos sólidos domiciliares do Rio de Janeiro. *Scientific Journal ANAP.* v. 01, n. 04, 2023.

10 https://www.ellenmacarthurfoundation.org/pt/recursos/redesenho-de-alimentos/visao-geral

- Measurements of waste at street markets in Ribeirão Preto, São Paulo, Curitiba, Recife, and Rio Branco.

- Several initiatives to promote sustainable school feeding (e.g., RAES/FAO) with the potential to be expanded through partnerships with the FNDE and local governments.

5.1.3 Strategy and next steps

- To train cities, selected from the Alimenta Cidades Strategy, in best practices for reducing waste and to guide them in their local diagnosis.

- Encourage the network of solidarity kitchens to engage in practices aligned with reducing waste (e.g., training in integral use, composting, and connecting kitchens with urban harvesting programs).

- Use the "Basic Municipal Information Survey" (Munic/IBGE) to collect some FLW information from local management.

- Investigate the possibility of the National Basic Sanitation Information System (SINISA) expanding data collection on solid waste so that information can be collected on the selective collection of organic waste.

- Identify and disseminate municipal policies and programs aligned with circular urban food systems.

- Promoting sustainable school meals. Include local and seasonal foods in the school menu; train cooks and kitchen staff to use parts of the food that would normally be discarded, etc.

- Reducing waste generation and using it as an input in new production cycles.

- Develop normative frameworks that allow managers to act on the issue and establish practices for monitoring the policies/ programs encouraged.

- Identification of large waste generators and establishment of pilot projects to produce biogas and other solutions to mitigate disposal in dumps or landfills.

- Educational and awareness campaigns on composting, presenting composting as a viable alternative for recycling organics (from schools, daycares, universities, to domestic initiatives, etc.).

5.2 Legislation on food donation/food banks

5.2.1 Diagnosis

Legislation on food donation has always been a controversial issue. Issues such as criminal liability for possible damage caused by the food donor, the health safety of the food, and the possibilities of increasing tax exemptions for the donor have been part of the repertoire of legislation dealing with food donation since the 2000s.

Currently, food donation is governed by Law No. 14,016 of June 23, 2020, passed at the height of the COVID-19 pandemic to create a more favorable environment for donation. Law 14.016 states that:

> *Art. 1 Establishments dedicated to the production and supply of food, including fresh food, industrialized products, and ready-to-eat meals,* ***are authorized to donate surpluses that have not been sold and are still fit for human consumption and meet the following criteria:***
>
> *I - they are within the expiration date and under the storage conditions specified by the manufacturer, where applicable;*
>
> *II - their integrity and health safety are not compromised, even if their packaging is damaged;*
>
> *III - they have maintained their nutritional properties and health safety, even if they have suffered partial damage or have a commercially undesirable appearance. (emphasis added)*

Law 14,016, of June 23, 2020, also exempts donors and intermediaries from civil, administrative, and criminal liability, unless it is proven that they acted intentionally. Another novelty of the law is that it establishes that food donation does not constitute a consumer relationship.

Along the same lines of creating a more favorable environment for donations, Senator Ciro Nogueira presented Bill of Law (PL) No. 2,874/2019, which provides for the donation of food by supermarkets and similar establishments, including making it compulsory for medium- sized and large establishments (this item was removed in the substitute).

After going through the Senate between 2020 and 2021, Bill No. 2,874/2019 went to the Constitution, Justice Agriculture and Agrarian Reform Committee and Citizenship Committee (CCJ), where a substitute, authored by Senator Alan Rick, was approved.

Senator Alan Rick's Substitute establishes:

> *The National Policy to Combat Food Loss and Waste (PNCPDA) creates the Food Donor Seal, amending Law No. 9,249, December 26, 1995, and repealing Law No. 14,016, June 23, 2020.*

The text of the substitute establishes, in greater detail than Law 14,016, how the donation process works, defining principles, concepts, and objectives. In addition, it corroborates the issue of not penalizing the donor and the idea that donation does not constitute a consumer relationship.

The controversial point of this bill concerns what is established in article 17, which proposes amending some articles of Law No. 9,249 of December 26,

1995, which deals with corporate income tax legislation. One of the proposals provides for the **possibility of increasing the deduction from 2% to 5%** of the legal entity's operating profit, before its deduction is computed, for donations made to civil organizations.

The increase in the income tax deduction has been the subject of much controversy. No studies or analyses show whether companies have used these deductions or whether this increase would necessarily increase food donations.

The proposal for a substitute, approved by the CCJ on 10/25/2024, was sent to the Chamber of Deputies on 10/30/2024.

The health safety of donated **food** has been the subject of several initiatives by the National Health Surveillance Agency (ANVISA) to create regulations to guarantee this safety in the donation process. Complementing these regulations, the Regulatory Impact Analysis (RIA/AIR) on the regularization of food donation with health security allowed a systematic study to be carried out, identifying specific needs in health regulation related to the Food Donation Law (Law No. 14,016/2020).

We have listed the main publications on this topic below:

- **Guia de boas práticas para bancos de alimentos [Guide to best practices for food banks]** (effective from 09/05/2019): presents recommendations and guidelines based on current health standards, to support the managers and technical heads of food banks in the preparation of their Good Practices Manuals and daily practice for the compliance and safety of the food transacted.

- **Guia de boas práticas para bancos de alimentos [Guide to Food Donation with Sanitary Safety]** (effective from 11/07/2022): a document that presents practical recommendations to help donors, intermediaries, volunteers, and beneficiaries in the food donation process.

In this way, the health safety agenda has been widely developed, highlighting the importance of compliance with current regulations and the adoption of safe and efficient practices in the donation process, strengthening Food and nutrition security and increasing the social impact of these initiatives.

In this context, food banks have become Brazil's main way of collecting and redistributing donated food. They are physical and logistical structures that offer the service of collecting or receiving and distributing free food from

public or private sector donations to public or private institutions that provide social assistance services.[11]

In a recent survey, Tenuta *et al.* (2021) identified 217 food banks operating in Brazil, including public ones, SESC Mesa Brasil networks, banks in Ceasas, and civil society initiatives.

Also noteworthy is the role of the RBBA, made up of 195 food banks, which has the following objectives: to promote the exchange of experiences, the strengthening and qualification of food banks; to stimulate actions to reduce food losses and waste in the Country; to encourage research related to food banks; to promote public policies and actions on food and nutrition security that strengthen food banks; and to articulate and facilitate strategic negotiations for the dissemination and establishment of partnerships with food banks.

In 2023, 168 food banks submitted their annual activity reports. Together, they collected **72,965.28 tons of food** from the following sources:

- Donations from retailers and urban harvesting: 49,650.24 tons (68.05 % of the total)
- Occasional Campaigns: 5,793.42 tons (7.94%)
- PNAE: 310.79 tons (0.43%)
- PAA: 14,414.52 tons (19.76%)
- Urban gardens: 266.60 tons (0.37%)
- Other Donations (not included in the previous categories): 2,796 tons (3,45%)[12]

11 Decreto Nº 10.490, de 17 de setembro de 2020

12 Dados internos da CGESAN/DESAU/SESAN/MDS

5.2.2 Advances and Resources Available

- A bill to regulate food donations is currently being discussed in Congress.

- There is already a great deal of information on legislation in various countries, including Latin America, on the subject, making it possible to differentiate initiatives according to their degree of effectiveness.

- Food banks are consolidated food and nutrition security facilities with a high capacity for collecting and redistributing food.

- RRBBA in operation.

- There is a tax incentive for corporate food donations.

- The health safety of donated food has already been well worked on and publicized by ANVISA.

5.2.3 Strategies and next steps

- Support and strengthen existing food banks through financial resources, training, and technological tools, including improving the measurement of food donated and distributed by food banks.

- Improve the role of the RBBA, making it work in a more integrated way.

- Improve mechanisms to encourage food donation, especially *fresh* or minimally processed food, including tax incentives or other mechanisms such as the donor sea.

- Expand the donation of *fresh* food at the expense of ultra-processed foods

- Disseminate and train the agents who work in the donation system regarding best practices and health safety already provided for in the ANVISA manuals.

- Analyze the effectiveness of the donation - who it's going to, what kind of food, etc..

- Analyze the carbon footprint and other results resulting from the donation to form a balance sheet of the environmental impacts derived from the donation of food.

- Analyze the role of food banks in supplying food security facilities (especially solidarity kitchens).

- Analyze the possibilities of improving the logistics of the search for food in the countryside (producer remuneration, etc.).

6.
Action Plan

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

6.1 Objectives

The main objective of the II Strategy for the Reduction of FLW in Brazil is to promote actions and initiatives aimed at preventing and reducing food losses and waste in Brazil, by articulating the efforts of public and private agents and promoting public policies that favor access to adequate and healthy food for the Brazilian population and that reduce the impact of FLW on climate change.

The specific objectives of the Strategy are:

- To make efforts to build a methodology for measuring food losses and expand measurements of food waste in Brazil (SDG 12.3).

- Promote public policies to strengthen food banks through financial resources, training, and technological tools, including improving the measurement of donated and distributed food.

- Improve the role of the Brazilian Food Bank Network, making it work in a more integrated way.

- Encouraging training for rural producers and agents involved in food marketing, with the aim of creating an environment more conducive to the prevention of FLW.

- Disseminate and train the agents who work in the donation system regarding the best practices and health safety already provided for in the ANVISA manuals.

- Prioritize, in actions and training, the reduction of FLW and the redistribution of *fresh* or minimally processed food.

- Promote the implementation of local policies and projects based on the concept of circular food systems or circular economy

.

- Encourage studies and research into FLWs and promote the implementation of new technologies in this area.

- Carry out campaigns and educational activities to raise awareness of food waste.

- Promote actions in the school environment that raise awareness of food waste.

- Promote actions to reduce the impact of organic waste disposal.

- Enabling public-private partnerships and/or voluntary agreements to mitigate FLW.

- Improve mechanisms to encourage food donations, especially *fresh* or minimally processed food, including tax incentives or other mechanisms.

- Prioritize the prevention of food waste, followed by redistribution, disposal for animal feed or reuse, recycling, or composting, according to the hierarchy proposed by the US Environmental Protection Agency (EPA), called the *Wasted Food Scale*.

6.2 Goals

The II Strategy for the Reduction of FLW will be implemented with actions for the next 3 years (2025-27), organized and presented below:

Objective 1 Make efforts to build a methodology for measuring SDGs in Brazil (SDG 12.3).

Goal 1.1 Develop measurement of losses by relevant crops, focusing on fruit and vegetables.

Action	Responsible	Deadline
Develop methodology, define crops for which losses will be measured, and conduct research.	IBGE, MAPA, Embrapa, MDA, CONAB, FAO	Until 2027

Goal 1.2 Quantify food waste in households nationwide to complement the gravimetric studies carried out by UNEP/PNUMA and partners.

Action	Responsible	Deadline
Conduct research to quantify food waste among consumers in different regions and analyze behavioral factors that lead to food disposal.	Embrapa, MDS and partners.	Until 2026

Objective 2 Promote public policies to strengthen food banks through financial resources, training and technological tools, including improving the measurement of donated and distributed food.

Goal 2.1 Implement and modernize public food banks in Brazil, in order to make them more qualified to collect and donate food.

Action	Responsible	Dead line
Publish 3 public calls for proposals (one per year) for the implementation and/or modernization of food banks, reaching a total of 60 supported banks.	MDS	Until 2027
Create a tool to support the management of food banks within the framework of the Alimenta Cidades Platform.	MDS and IFSP	Until 2027

Objective 3 Improve the role of the Brazilian Food Bank Network, making it work in a more integrated way.

Goal 3.1 To have a network of food banks (public, Sesc Mesa Brasil and NGOs) acting in a connected and integrated manner.

Action	Responsible	Dead line
Create, within the framework of the Alimenta Cidades Platform, a tool to support the operation of the Brazilian Food Bank Network.	MDS and IFSP	Until 2027

Objective 4 To disseminate and train the agents who work in the donation system regarding best practices and health safety provided for in the ANVISA manuals.

Goal 4.3 Train technicians working in food banks in management, food handling, making full use of food, and disposing of solid organic waste.

Action	Responsible	Dead line
Establish partnerships with universities, federal institutes, and NGOs to enable training and the production of promotional materials.	MDS, Universities, Federal Institutes, NGOs	Until 2027

Objective 5 Promote the implementation of local policies and projects based on the concept of circular food systems or circular economy.

Goal 5.1 Draw up projects, programs, and actions to reduce FLW within the framework of the Alimenta Cidades Strategy.

Action	Responsible	Deadline
To support 30 cities in preparing a local diagnosis for the reduction of FLW, including identifying critical points related to FLW in the urban environment.	MDS, municipalities	Until 2027
To support 30 cities in defining actions and programs to reduce FLW in urban environments.	MDS, municipalities	Until 2027
Support 05 cities in measuring FLWs.	MDS, municipalities	Until 2027

Goal 5.2 Strengthen actions under the National Urban and Peri-urban Agriculture Program that promote circular food systems.

Action	Responsible	Dead line
Implement 300 "Sisteminhas"("Small Systems"), a social technology developed by Embrapa and partners.	MDS, Embrapa, municipalities	Until 2027
Supporting the establishment/maintenance of 96 urban gardens, including the financing of composting systems.	MDS, IFPA, municipalities	Until 2027

Goal 5.3 Develop projects and actions to engage the network of solidarity kitchens in practices aligned with reducing waste.

Action	Responsible	Dead line
Set up 7 biodigesters in solidarity kitchens to develop a pilot project to promote the circular economy in the territory of the kitchens (Cozinhas Sustentáveis [Sustainable Kitchens] Program).	MDS, MME, Itaipu Binacional, General Secretariat of the Presidency of the Republic	Until 2025
Develop a proposal for training courses on sustainable food systems for the Cozinhas Solidárias (Solidarity Kitchens) Program beneficiaries.	MDS	Until 2027
Train 100 solidarity kitchens in sustainable food systems.	MDS, FAO	Until 2026

Objective 6 To promote actions in the school environment that raise awareness of the issue of food waste.

Goal 6.1 Dissemination of tools to help schools manage the FLW.

Action	Responsible	Deadline
Raise awareness and train CECANEs and school nutritionists to use the tools.	FNDE, Cecanes	2026
Develop and distribute guidance material on FLW to school managers and school nutritionists.	FNDE, Cecanes	2026

Objective 7 Improve mechanisms to encourage food donations, especially *fresh* or minimally processed food, including tax incentives or other mechanisms.

Goal 7.1 Prepare a study on the use of tax incentives related to food donations.

Action	Responsible	Deadline
Prepare a study.	MDS and MF	Until 2025

Objective 8 Promote actions to reduce the impact of organic waste disposal.

Goal 8.1 Increase the recovery of urban organic waste and divert it from final disposal (landfills and dumps) through recycling and food waste prevention actions, in an integrated manner with the Urban Organic Waste Reduction and Recycling Plan being developed by the MMA.

Action	Responsible	Dead line
Improve national information systems on municipal solid waste, expanding the information collected on municipal organic waste management and food waste prevention in the National Basic Sanitation Information System (SINISA), linking it to the National Solid Waste Management Information System (SINIR).	MMA, MDS and MCid	Until 2027
Create mechanisms and programs for training and technical advice for municipalities, consortia, environmental agencies and professionals involved in urban solid waste management on preventing food waste and recycling organic waste.	MMA and MDS	Until 2027
To provide technical and financial support for selective collection, composting and recycling programs for urban organic waste in small (up to 50,000 inhabitants) and medium-sized cities (between 100 and 500,000 inhabitants), which may include funding for actions integrated with urban and peri-urban agriculture.	MMA, MDS and MDA	Until 2027
Carry out awareness-raising campaigns on the benefits of preventing food waste, composting and recycling organic waste.	MMA and MDS	Until 2027

7.

Governance, Evaluation and Monitoring

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

The implementation of the Strategy requires consolidating a governance process based on leadership, coordination, and intersectoral articulation to make it feasible to carry out the planned goals at different federal levels and government sectors. This process must ensure that the guidelines presented are met while promoting ongoing evaluation and monitoring, active listening, and broad participation by society.

In this context, the Steering Committee for the Food Loss and Waste Strategy, set up within the framework of Caisan, will be the central space for governance at the federal level.

It will be up to the Steering Committee:

I - to define the necessary acts for management, monitoring, participation and mobilization, within the scope of the II Intersectoral Strategy for the Reduction of Food Losses and Waste in Brazil;

II - to define the mechanisms and procedures for participation and federative cooperation, within the scope of the II Intersectoral Strategy for the Reduction of Food Losses and Waste in Brazil;

III - follow up, monitor and evaluate the programs and actions that make up the II Intersectoral Strategy for the Reduction of Food Losses and Waste in Brazil, in addition to ensuring the dissemination of its results; and

IV - to provide information to Consea on the II Intersectoral Strategy for the Reduction of Food Losses and Waste in Brazil.

The Evaluation and Monitoring Plan will be included in the Strategy's governance. This plan will serve as an essential tool to guide the analysis of compliance with the targets.

Bibliographic references

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

Bibliographic References

ABRAS. Pesquisa de eficiência operacional. São Paulo, SP: Associação Brasileira de Supermercados (ABRAS), 2024. Disponível em: https://www.abras.com.br/economia-e-pesquisa/pesquisa-de-eficiencia-operacional/pesquisa-2024

BRANCOLI *et al*. Compositional analysis of street market food waste in Brazil. *Sustainability*, v. 14, n. 12, p. 7014, 2022. Disponível em: https://doi.org/10.3390/su14127014. Acesso em: 14 nov. 2024.

BRASIL. *Lei n.º 6.437, de 20 de agosto de 1977*. Configura infrações à legislação sanitária federal, estabelece as sanções respectivas, e dá outras providências. Diário Oficial da União: Brasília, DF, 24 ago. 1977.

BRASIL. *Lei n.º 8.078, de 11 de setembro de 1990*. Código de Defesa do Consumidor. Dispõe sobre a proteção do consumidor e dá outras providências. Diário Oficial da União: Brasília, DF, 12 set. 1990.

BRASIL. *Lei n.º 9.249, de 26 de dezembro de 1995.* Altera a legislação do imposto de renda das pessoas jurídicas, bem como da contribuição social sobre o lucro líquido, e dá outras providências. Diário Oficial da União: Brasília, DF, 27 dez. 1995.

ELLEN MACARTHUR FOUNDATION. Redesenho de alimentos: visão geral. Disponível em: https://www.ellenmacarthurfoundation.org/pt/recursos/redesenho-de-alimentos/visao-geral. Acesso em: 7 jan. 2025.

FAO e ICLEI. Guia para Gestores Públicos: Sistemas Alimentares Circulares na América Latina. *Bonn*, Alemanha: 2023.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. *Global Food Losses - Sustainable Development Goals Data Portal*. Disponível em: https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1231-global-food-losses/en. Acesso em: 14 nov. 2024.

PORPINO *et al. Intercâmbio Brasil-União Europeia sobre desperdício de alimentos: relatório final.* Brasília, DF: Diálogos Setoriais União Europeia-Brasil: Embrapa, 2018.

PROGRAMA DAS NAÇÕES UNIDAS PARA O AMBIENTE. *Relatório do Índice de Desperdício Alimentar 2021* (Food Waste Index Report 2021). Nairobi, 2021.

TÂNGARI, J. e PORPINO, G. Cidades e alimentação: relatório de pesquisa: diálogo União Européia - Brasil sobre sistemas alimentares urbanos sustentáveis. Maceió: Embrapa Alimentos e Territórios: Instituto Comida do Amanhã, 2023.

TENUTA *et al*. Brazilian Food Banks: Overview and Perspectives. *Int J Environ Res Public Health.* 2021;18:12598. Disponível em: **https://www.arca.fiocruz.br/bitstream/handle/icict/53466/Brazilian%20Food%20Banks_%20Overview%20and%20Perspectives.pdf?sequence=2**. Acesso em: 14 nov. 2024.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. *Wasted Food: A Wasted Food Scale*. Disponível em: **https://www.epa.gov/sustainable-management-food/wasted-food-scale**. Acesso em: 14 nov. 2024.

UNITED NATIONS ENVIRONMENT PROGRAMME. *Food Waste Index Report 2024. Think Eat Save: Tracking Progress to Halve Global Food Waste*. 2024. Disponível em: **https://wedocs.unep.org/20.500.11822/45230**. Acesso em: 14 nov. 2024.

VAZ E ALVES et al. Análise preliminar da fração orgânica dos resíduos sólidos domiciliares do Rio de Janeiro. *Scientific Journal ANAP*: v. 01, n. 04, 2023.

Annexes

II Intersectoral Strategy for
Reducing Food Losses and Waste in Brazil

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

ANNEX 1

Participants in the Food Loss and Waste Strategy-FLW Working Groups

Representative	Body
Adalberto Maluf	Ministry of Environment and Climate Change-MMA
Alberto Rocha	Ministry of Environment and Climate Change-MMA
Alcione Pereira	Connecting Food
Alessandra Felix Vargas	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Alezandre Coelho Teixeira	Ministry of Science, Technology and Innovation-MCTI
Aline Figueiredo	Ministry of Agrarian Development-MDA
Amanda da Silva Bastos de Oliveira	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Ana Bárbara Zanella	ICLEI South America
Ana Carolina Souza	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Ana Flávia de Abreu	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Bruna de Oliveira	WWF Brasil
Bruna Pitasi Arguelhes	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Camila Linche Gonçalves Lima	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Camilo Eduardo Quintero	United Nations Organizations - FAO
Carmem Priscila Bocchi	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS

Cássio Araújo de Oliveira Rodrigues	Ministry of Environment and Climate Change-MMA
Cecília Lobo Araújo	Getulio Vargas Foundation-FGV
Clarita Guimarães Rickli	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Claudia Márcia Ramos Roseno	Social Service of Commerce-SESC
Daiane Ramon de Alcantara	Ministry of Finance
Daniel Dias Bezerra	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Deise Menezes Ribeiro Fassio	National Supply Company-CONAB
Diógenes Alencar Bolwerk	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Eder Eduardo Bublitz	Brazilian Association of Supply Centers -ABRACEN
Fernanda Romero	United Nations Environment Programme (PNUMA/UNEP)
Gabriel Vicente Bitencourt de Almeida	Companhia de Entrepostos e Armazéns Gerais de São Paulo -CEAGESP
Gisele Bortolini	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Gismalia Luiza Passos Trabuco	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Gustavo Chianca	United Nations Organizations - FAO
Gustavo Porpino de Araújo	Brazilian Agricultural Research Corporation-EMBRAPA
Henrique Martins Gianvecchio Carvalho	Brazilian Agricultural Research Corporation-EMBRAPA
Israel Rios	United Nations Organizations - FAO
Italo Ludke	Brazilian Agricultural Research Corporation-EMBRAPA
Jaciara Zacharias da Silva	Brazilian Institute of Geography and Statistics-IBGE

João Intini	United Nations Organizations - FAO
José David Torres Gallardo	United Nations Organizations - FAO
Juliana Martins Torres	National Supply Company-CONAB
Juliana Tangari	Comida do Amanhã
Kamila Castro Santos	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Karine Silva dos Santos	National Fund for Educational Development-FNDE
Kelliane Fuscaldi	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Lara Line P. de Souza	Ministry of Agriculture, Livestock and Food Supply-MAPA
Laura Albano	United Nations Organizations - FAORLC
Ligia Alves dos Santos	Ministry of Social Development and Fight Against Hunger - MDS
Lilian dos Santos Rahal	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Lilian Uyema	Companhia de Entrepostos e Armazéns Gerais de São Paulo -CEAGESP
Lilliane Fernandes	National Health Surveillance Agency-ANVISA
Liriam Ikeda Ribeiro Carelli	Pact Against Hunger
Luciana Gonçalves da Costa	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Luciana Marque Vieira	Getulio Vargas Foundation-FGV
Luciene Mignani	Ministry of Fisheries and Aquaculture-MPA
Luiz Henrique Bambini de Assis	Companhia de Entrepostos e Armazéns Gerais de São Paulo -CEAGESP
Márcia Muchagata	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS

Marcio Milan	Brazilian Supermarket Association-ABRAS
Marcos David Ferreira	Brazilian Agricultural Research Corporation-EMBRAPA
Marcus Peixoto	Federal Senate
Marcus Vinicius de Miranda Martins	Ministry of Agriculture, Livestock and Food Supply-MAPA
Maria Eduarda de Morais Lemos	Comida do Amanhã
Maria Siqueira	Pact Against Hunger
Mariana Belloni Melgaço	National Fund for Educational Development-FNDE
Miriam Isabel Engel	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Murillo Freire	Brazilian Agricultural Research Corporation-EMBRAPA
Najla Veloso	United Nations Organizations - FAO
Natália Araújo de Oliveira	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Natalia Tenuta	Researcher
Nathália Dezidério Ramos Coêlho	Instituto Pólis
Newton Araújo Silva Júnior	National Supply Company-CONAB
Nicol Barahona,	United Nations Organizations - FAORLC
Octávio Oliveira	Brazilian Institute of Geography and Statistics-IBGE
Patrícia Gentil	Ministry of Development and Social Assistance, Family and Fight Against Hunger- MDS
Patrícia Saraiva	Ministry of Development and Social Assistance, Family and Fight Against Hunger - MDS
Priscila Socoloski	Connecting Food

Rafaela Vieira	Pact Against Hunger
Renata Zago Diniz Fonseca	National Health Surveillance Agency-ANVISA
Rodrigo Perpetuo	ICLEI
Rodrigo Vargas	National Health Surveillance Agency-ANVISA
Roseli Zerbinato	Ministry of Agrarian Development-MDA
Rosilene Ferreira Souto	Ministry of Agriculture, Livestock and Food Supply-MAPA
Sara Granados	United Nations Organizations - FAO
Semiramis Rabelo Ramalho Ramos	Brazilian Agricultural Research Corporation-EMBRAPA
Sérgio Dorfler	United Nations Organizations - FAO
Simone Silotti	FaçaumBemINCRÍVEL
Walter Belik	Instituto Fome Zero
Warley Nascimento	Brazilian Agricultural Research Corporation-EMBRAPA

II Estratégia Intersetorial para a
Redução de Perdas e Desperdício de Alimentos no Brasil

CAISAN
CÂMARA INTERMINISTERIAL DE SEGURANÇA ALIMENTAR E NUTRICIONAL

MINISTÉRIO DO
DESENVOLVIMENTO E ASSISTÊNCIA SOCIAL, FAMÍLIA E COMBATE À FOME

GOVERNO FEDERAL

BRASIL
UNIÃO E RECONSTRUÇÃO