ne'ma نعمة

المبادرة الوطنية للحد من فقد وهدر الغذاء

National Food Loss and Waste Initiative

Key Food Loss and Waste Statistics

August 2024

مؤسسة الإمارات

EMIRATES FOUNDATION

وزارة التغير المناخي والبيئة

MINISTRY OF CLIMATE CHANGE & ENVIRONMENT

TABLE OF CONTENTS

Key Food Loss and Waste Statistics

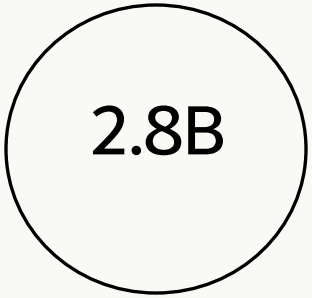
Global Food Security and Nutrition

FOOD INSECURITY

2.33 billion people, **28.9 %** of the global population, were moderately or severely food insecure in 2023

HUNGER

In 2023, **between 713 and 757 million people** (8.9 to 9.4% of the global population) **were undernourished**, with a mid-range estimate of **733 million**—about 152 million more than in 2019 facing hunger



LACK OF ACCESS TO HEALTHY DIETS

Around **2.8 billion people,** which is more than one-third of people in the world, could not afford a healthy diet in 2022, with the largest percentage in low-income countries

CHRONIC UNDERNOURISHMENT

582 million people are projected to be chronically undernourished, by 2030, with more than half in Africa

Source: The State of Food Security and Nutrition in the World 2024 (FAO, IFAD, UNICEF, WFP, WHO)

Global Food Loss and Waste

USD 1 trillion
is the estimated cost of both food loss and waste on the global economy

1.05 billion tons of wasted food
is generated, amounting to 132 kgs per capita, and almost one-fifth of all food available to consumers

8-10% of annual GHG emissions
are produced from food loss and waste, almost 5 times that of the aviation sector

FOOD LOSS AND WASTE ACROSS THE SUPPLY CHAIN

- As much as **19% of food** that reaches the consumption stage is subsequently **disposed by retailers, food service and households**
- **13% of food** was **lost in the supply chain** with an approximate economic value **of USD 400 billion**[1]

HOUSEHOLD FOOD WASTE IS A GLOBAL PROBLEM

High-income, upper-middle income, and lower-middle income countries differ in average levels of household food waste by only **7 kgs per capita per year**

The bigger divide comes in the variations between urban and rural populations

Source: UNEP Food Waste Index Report 2024
(1) https://sdg12hub.org/sdg-12-hub/see-progress-on-sdg-12-by-target/123-food-loss-waste

Global Food Waste by Sector

In 2022, **global food waste** across retail, food services, and households reached **1.05 billion tons**, with **60% from households**, **28% from food services**, and **12% from retail**. This amounts to **132 kg per capita annually** worldwide, with **households alone wasting 79 kg per capita**, equivalent to **1 billion meals daily**.

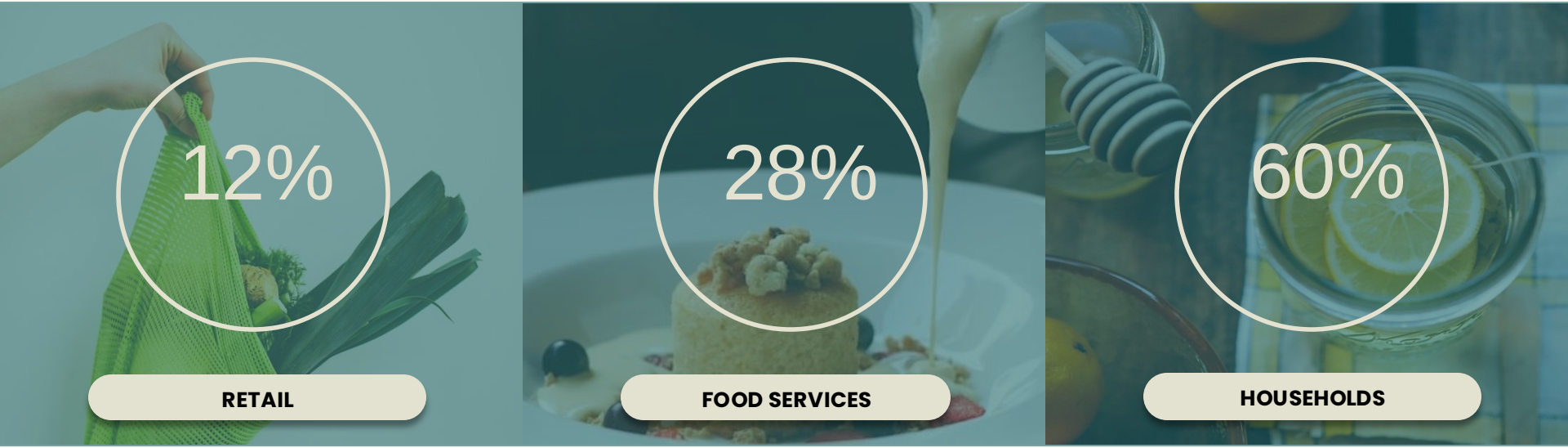


Figure 1: % of Global Food Waste by Sector

The report estimates that **19% of total global food production** may end up as **food waste** at the retail and consumer stages while **13% of food was lost in the supply chain with an approximate economic value of USD 400 billion**[1]

Source: UNEP Food Waste Index Report 2024
(1) https://sdg12hub.org/sdg-12-hub/see-progress-on-sdg-12-by-target/123-food-loss-waste

Economic, Social & Environmental Impacts

Economic Impact of Food Loss & Waste

Economic Impact of Food Loss & Waste

Food waste is a market failure that results in the throwing away of more than **USD 1 trillion** worth of food every year[1]

01

Global Cost of Food Loss & Waste

USD 1 trillion is the estimated cost of both food loss and waste on the global economy[1]

02

Inability to Afford Healthy Diet

Around 2.8 billion people, (over a third of the global population) could not afford a healthy diet in 2022, with the largest % in low-income countries[2]

03

Global Economic Loss from Post-Harvest Food Waste

Globally, at least **USD 400 billion**[3] is lost due to 13% of food being wasted after harvest, including during transport, storage, and processing[1]

04

Global Food Waste on Farms

Globally, **USD 370 million** worth of food is wasted on farms each year, according to a 2021 report by WWF-UK and Tesco[4]

Source: (1) UNEP Food Waste Index Report 2024
(2) The State of Food Security and Nutrition in the World 2024 (FAO, IFAD, UNICEF, WFP, WHO)
(3) https://sdg12hub.org/sdg-12-hub/see-progress-on-sdg-12-by-target/123-food-loss-waste
(4) https://wwfint.awsassets.panda.org/downloads/wwf_uk__driven_to_waste___the_global_impact_of_food_loss_and_waste_on_farms.pdf

Social Impact of Food Loss & Waste

Social Impact of Food Loss & Waste

With the **global population** expected to hit **10 billion** by **2050**[3], almost a **third of humanity faces food insecurity**[2], yet a **fifth of all food is still wasted**[4]

01 Global Food Waste vs Global Hunger

1.05 billion tons of wasted food is generated, amounting to 132 kgs per capita[1] whilst at the same time around **733 million people** were affected by **hunger**[2]

02 Global population expected to grow to 10 billion by 2050

Population growth will drive food demand. Without reducing FLW, **the amount of FLW is projected to double** as the food system expands to meet demand[3]

03 Global Food Insecurity

In 2023, **2.33 billion people** (28.9% of the global population) **faced moderate or severe food insecurity**. In 2022, over 2.8 billion people couldn't afford a healthy diet, with the highest rates in low-income countries[2]

04 Global Hunger and Chronic Undernourishment

In 2023, **713 to 757** million people globally were undernourished, with a mid-range estimate of **733 million**. By 2030, 582 million people are projected to be chronically undernourished, with over half in Africa[2]

Source: (1) UNEP Food Waste Index Report 2024
(2) The State of Food Security and Nutrition in the World 2024 (FAO, IFAD, UNICEF, WFP, WHO)
(3) Goodwin, L. (2023, April). The Global Benefits of Reducing Food Loss and Waste, and How to Do It. World Resources Institute. https://www.wri.org/ insights/reducing-food-loss-and-food-waste
(4) https://news.un.org/en/story/2024/03/1148036

Environmental Impact of Food Loss & Waste

Environmental Impact of Food Loss & Waste

Food systems puts **pressure on 86% of the world's threatened species,** yet land area the size of China is used to grow food that is lost or wasted[4]

01 Global Greenhouse Gas (GHG) Emissions

8 to 10% of global GHGs are produced from **food loss and waste**. If food waste were a country, it would be the 3rd largest GHG emitter after US and China[1]

02 Methane Hotspot

Food in landfills produces large amounts of methane which is **25 times more potent than CO2** and a driver of the climate crisis[2]

03 Higher Food Waste in Hotter Countries

This occurs at both the household level and post-harvest stages due to high temperatures impacting storage, processing, and transportation[3]

04 Agricultural Land Use in Global Food Production

More than one-third of all the food that is produced globally, uses over a quarter **(28%) of the world's agricultural area**[3]

Source: (1) FAO - Food Wastage Footprint 2015
(2) https://www.fao.org/newsroom/detail/mapping-ways-to-reduce-methane-emissions-from-livestock-and-rice/en
(3) UNEP Food Waste Index Report 2024
(4) https://refed.org/uploads/reducing-food-loss-and-waste-a-roadmap-for-philanthropy.pdf

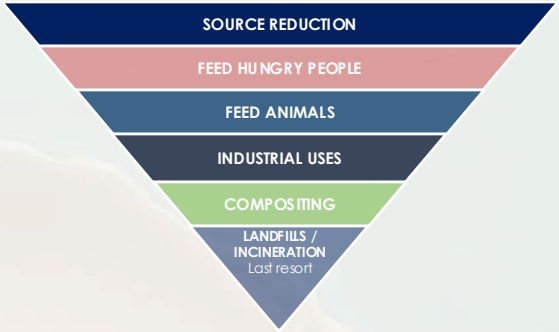
Key Definitions & ne’ma Terminology

FAO/UNEP Definitions

Term	UNEP/FAO Definition
Food loss and waste	Food loss and waste (FLW) refers to a decrease, at all stages of the food chain from harvest to consumption in mass, of food that was originally intended for human consumption, regardless of the cause[1]
Food loss	Food losses (FL) refers to a decrease, at all stages of the food chain prior to the consumer level, in mass, of food that was originally intended for human consumption, regardless of the cause[1]
Food waste	Food waste (FW) refers to food appropriate for human consumption being discarded or left to spoil at consumer level – regardless of the cause[1]
Food system	A food system gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes[1]
Sustainable food system	A sustainable food system (SFS) is a food system that ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised[1]
Food security	Physical, social and economic access by all people at all times to sufficient, safe and nutritious food needed for a healthy and active life[2]
Food insecurity	A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life[2]
Food value chain	It consists of all the stakeholders who participate in the coordinated production and value-adding activities that are needed to make food products[2]
Edible Waste	Edible waste encompasses food that is discarded or wasted but is **still suitable for human consumption**. This includes **leftovers from meals, expired but still edible food items, and produce with minor cosmetic imperfections.** Edible waste is essentially food that could have been consumed but is instead thrown away.
Inedible Waste	Inedible waste refers to food or food-related materials that **are not suitable for human consumption and cannot be used for other purposes**. This includes items such as food scraps, bones, shells, and peels, as well as packaging materials like plastic wrappers and containers. Inedible waste **cannot be salvaged or repurposed for human consumption** and is typically destined for disposal.

Key Terms Simplified

Term	Definition
Food loss	Food that is lost before reaching the consumer due to poor harvesting, insufficient packaging, or problems with transportation and storage.
Food waste	Food thrown away rather than consumed by retailers, food services, or consumers due to over-purchasing, spoilage, and surplus production.
Overproduction	The excessive production of food beyond what is demanded or needed by customers. Overproduction is driven by the attempt to meet perceived customer demand, making it a serious issue in the food industry[1].
Overconsumption	The excessive consumption of food beyond what is necessary or required. Overconsumption also refers to consumer purchasing habits, with many people buying more food than they can consume[1].
Surplus Food	Surplus food refers to food that **is still safe and edible** but is in excess of what is needed or consumed. This can occur at various stages of the food supply chain, including production, distribution, retail, or consumption. Surplus food often results from overproduction, market fluctuations, or aesthetic imperfections but is still fit for consumption.
Rescued Food	Rescued food is **surplus food** that **is recovered or diverted from being wasted and redistributed to those in need**. This can involve collecting excess food from farms, manufacturers, retailers, or food service establishments and redistributing it to food banks, shelters, charities, or community organizations. **Rescued food helps to alleviate hunger, reduce food waste, and support vulnerable populations**.
Diverting from Landfill	Diverting food from landfill **refers to the practice of redirecting food waste away from disposal in landfills** or incineration facilities. **Instead of being discarded**, food waste is diverted to alternative disposal methods such as composting, anaerobic digestion, or food recycling programs. This helps to reduce the environmental impact of food waste by minimizing methane emissions from landfills and conserving valuable resources.



ne’ma Terminology

	Guidelines		
Referencing ne’ma	When introducing ne’ma, the full title should be used: ne’ma - The National Food Loss and Waste Initiative		
Branding titles	When referencing ne’ma’s tools, use the following full titles • ne’ma National Data Hub • Recognition certificates • ne’ma pledge		
Publications	1. The National Food Loss and Waste Initiative Roadmap - 2023 2. How to reduce food waste using three low-cost nudges | A practical guide for canteens and buffet restaurants - 2023 3. How the UAE Eats | Findings from the UAE’s First National Household Food Waste Survey - 2023 4. National Action at Scale for Reducing Food Waste in the Hospitality Sector – 2023 5. ne’ma roadmap 6. ne’ma impact report foundation years		
Differentiation between Projects, Programs and Activations	When referencing the **projects**, kindly use these correct titles: • The National Baseline Study • International Missions and Collaborations • LSE Food Loss and Waste Policy Study • ne’ma Stars Rating System for Hospitality	When referencing the **programs**, kindly use these correct titles: • ne’ma Food Rescue Program • ne’ma Educational Program • ne’ma Behavioral Lab (Sectorial Activations: Hospitality, Households) • Advocacy • Awareness Program (tbc w/team)	Avoid using the word initiatives. Instead use the word **activation**

ne’ma Impact Metrics

IMPACT METRICS

Environment

- Number of kg of food waste diverted from landfill
- Number of kg of CO2e emissions prevented
- kg of compost created for nourishing the local farmland

People

- # meals donated and redistributed through surpluses
- # volunteering hours
- # of meals distributed from food surplus through smart community fridges
- # of boxes distributed

Local economy

AED of economic value created through empowered innovation

- **Carbon dioxide equivalent (CO2e) is the number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another GHG (EPA)2**
- **Greenhouse Gas (GHG) Emissions: Gases that trap heat in the atmosphere are called greenhouse gases including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated gases (EPA)2.**

Summary: UNEP's Food Waste Index Report 2024

USD 1 trillion
is the estimated cost of both food loss and waste on the global economy

1.05 billion tons of wasted food
is generated, amounting to 132 kgs per capita, and almost one-fifth of all food available to consumers

8-10% of annual GHG emissions
are produced from food loss and waste, almost 5 times that of the aviation sector

~19% of food reaching the consumption stage is disposed by food services, retailers & households

12%	28%	60%
of global food waste comes from the **RETAIL SECTOR**	of global food waste comes from **FOOD SERVICES**	of global food waste comes from **HOUSEHOLDS**

FOOD LOSS AND WASTE IS A GLOBAL PROBLEM

High-income, upper-middle income, and lower-middle income countries differ in average levels of household food waste by only **7 kgs per capita per year**

The bigger divide comes in the variations between urban and rural populations