



# Food Waste Management (FWM) to Combat Hunger

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# Strategies to Combat Global Hunger through Food Waste Management

- Responsible consumption and production;
- Strong fluctuations and short-term changes;
- Waste food conversion to healthy foods;
- Formulation of novel foods by utilization of residues and byproducts generated in the poor regions of the world.

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# FAO's Definition of Food Waste and Loss

- ❑ **Food Waste** - food appropriate for human consumption being discarded, whether or not after it is kept beyond its expiry date or left to spoil.
- ❑ **Food Loss** - food that unintentionally undergoes deterioration in quality or quantity as a result of food spills, spoils, bruising, wilting or other such damage as a result of infrastructure limitations at the production, storage, processing and distribution stages of the food lifecycle.



# FAO's Definition of Food Waste and Loss Index

- ❑ **Food Loss Index** - The Food Loss Index looks at what is lost during production or in the food supply chain before food reaches the retailers.
- ❑ **Food Waste Index** - The Food Waste Index focuses on the food that is thrown away at the end of the supply chain by retailers and consumers.



# Food Waste and Loss Index



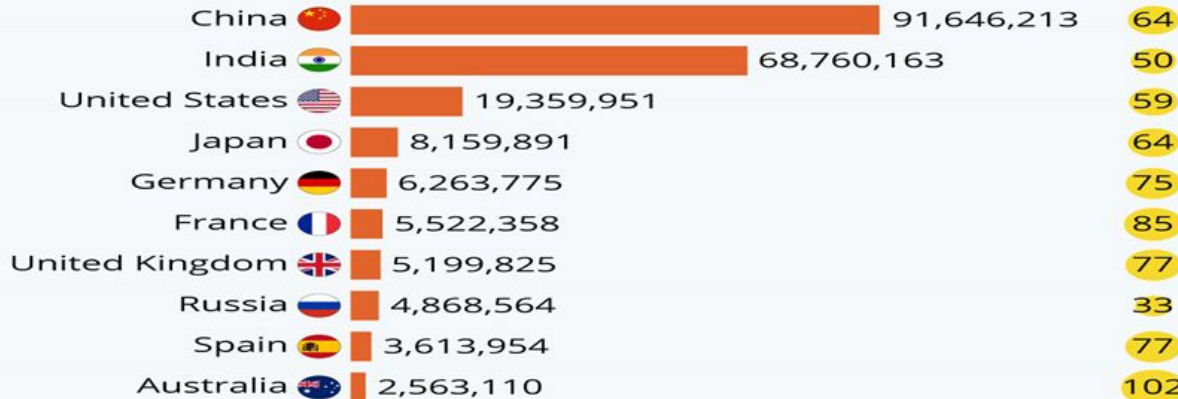
# Global Food Waste

## The Enormous Scale of Global Food Waste

Total annual household food waste produced in selected countries\*



- Total food waste per year (tonnes)
- Estimated food waste per capita (kg)



\* UNEP estimates with high or medium confidence  
Source: UNEP Food Waste Index Report 2021

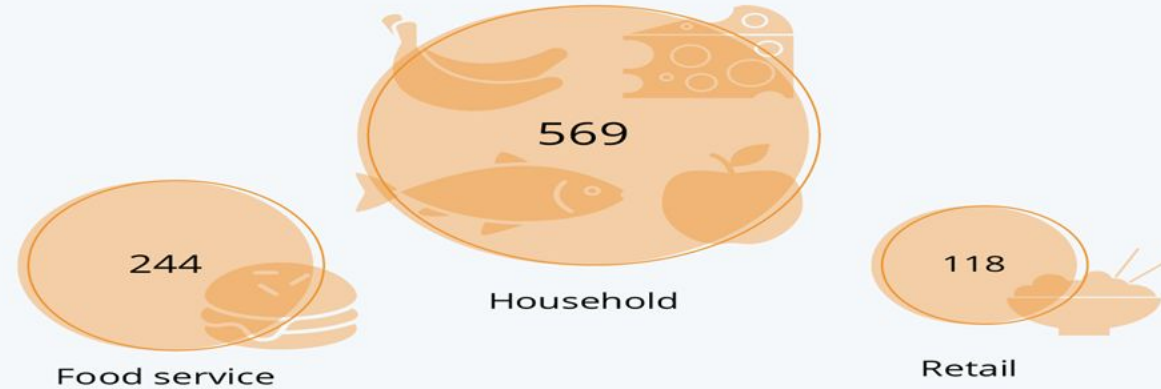


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# Global Food Waste – by Sector

## Food Waste Is Becoming A Billion Tonne Problem

Estimated annual global food waste by sector (million tonnes)



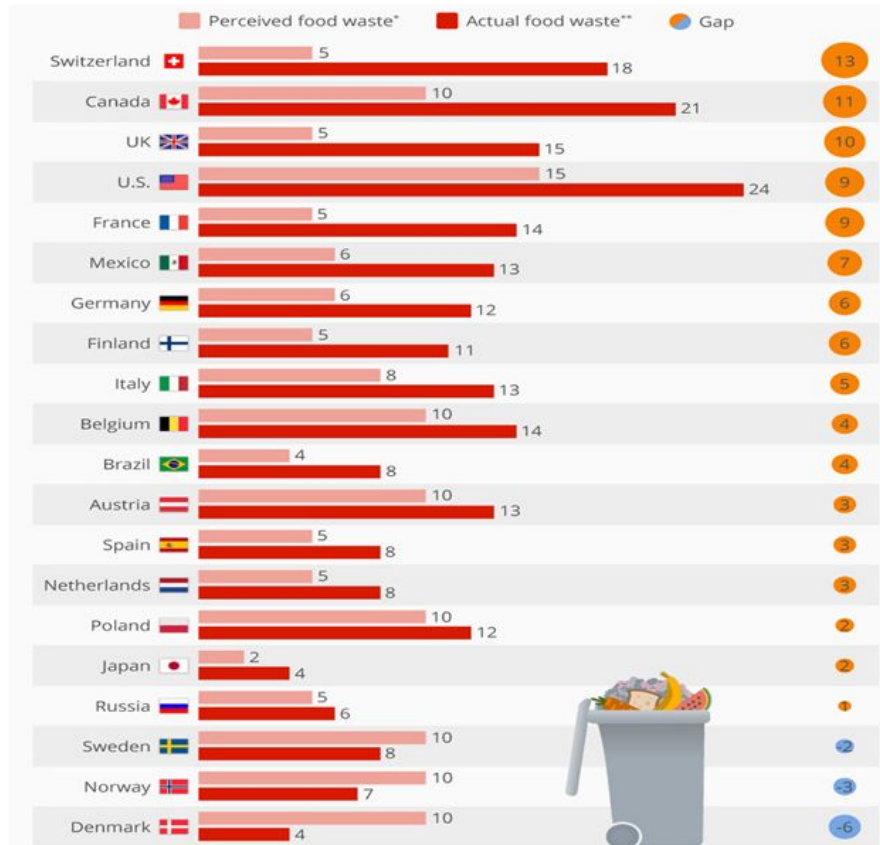
Source: UNEP Food Waste Index



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# Global Food Waste – Households



# Global Food Waste & Loss – per Year

## Global food losses and waste per year

around **1/3** of the world's food is squandered, that is

**1.3** billion tons of wasted food at

**1** approx. trillion USD costs

## IFCO



**45%** of all **fruit and vegetables**



**35%** of all **fish and seafood**



**30%** of all **cereals**



**20%** of all **dairy products**

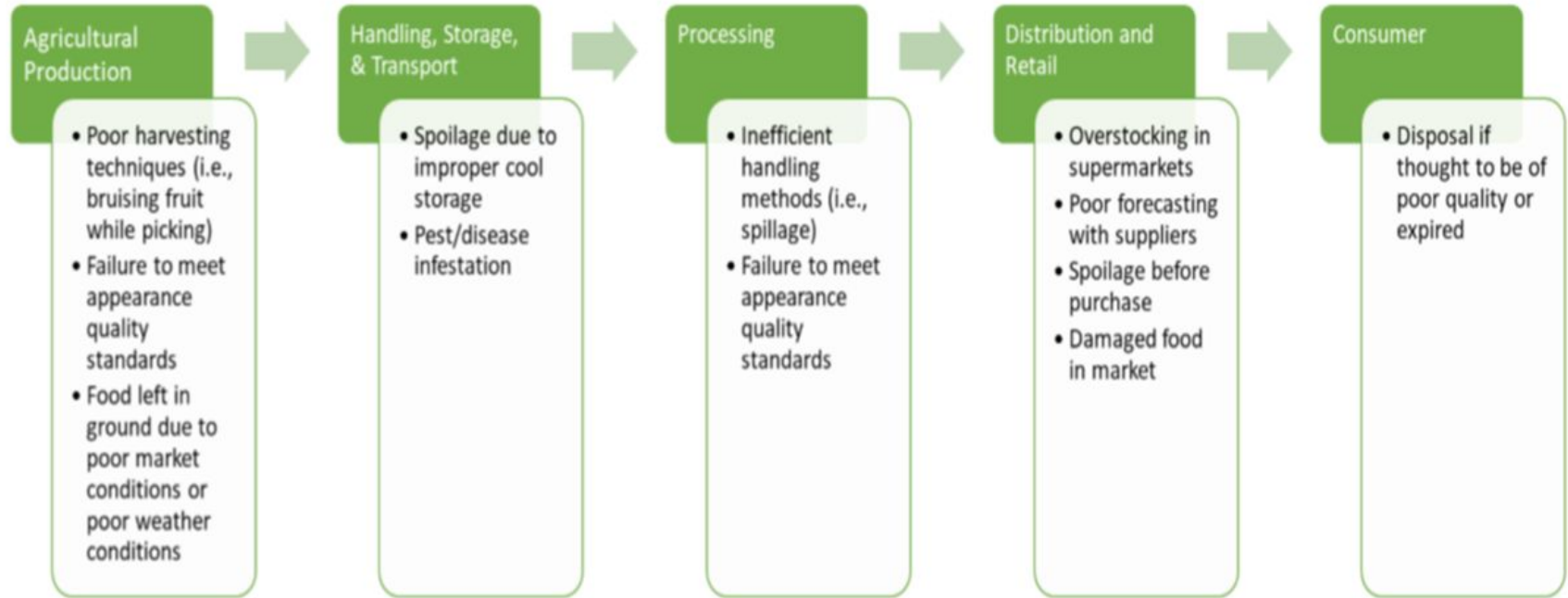


**20%** of all **meat and poultry**

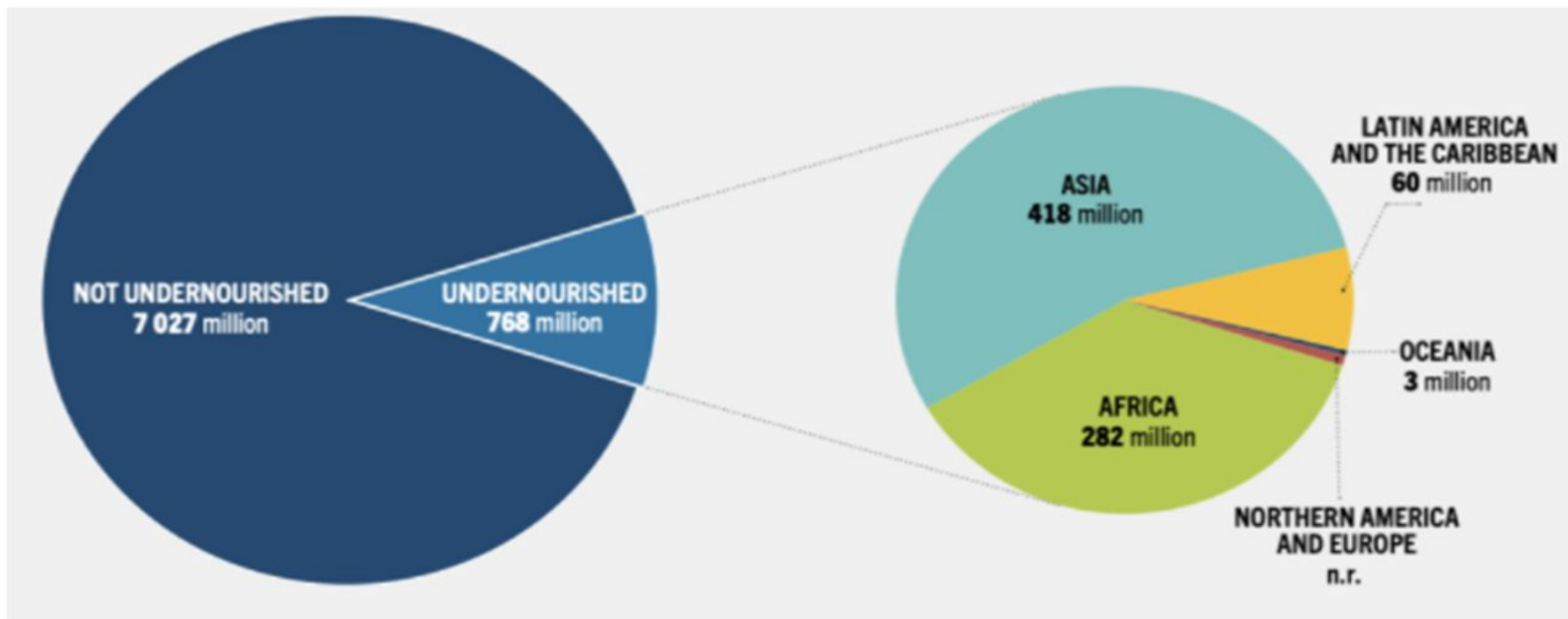
Source | [www.fao.org/save-food/resources/infographic/en/](http://www.fao.org/save-food/resources/infographic/en/)

**A better supply chain serves us all. Let's eat.**

# Causes of Food Loss and Waste in Food Supply Chain



# Hunger In Asia and Africa in 2020



# Global Hunger Facts According to World Food Program

23 million primary school-age children in Africa alone attend classes hungry

3.5 million children (half of children under five years) die each year due to Poor nutrition

## Hunger Facts

66 million primary school-age children (across the developing world) attend classes hungry

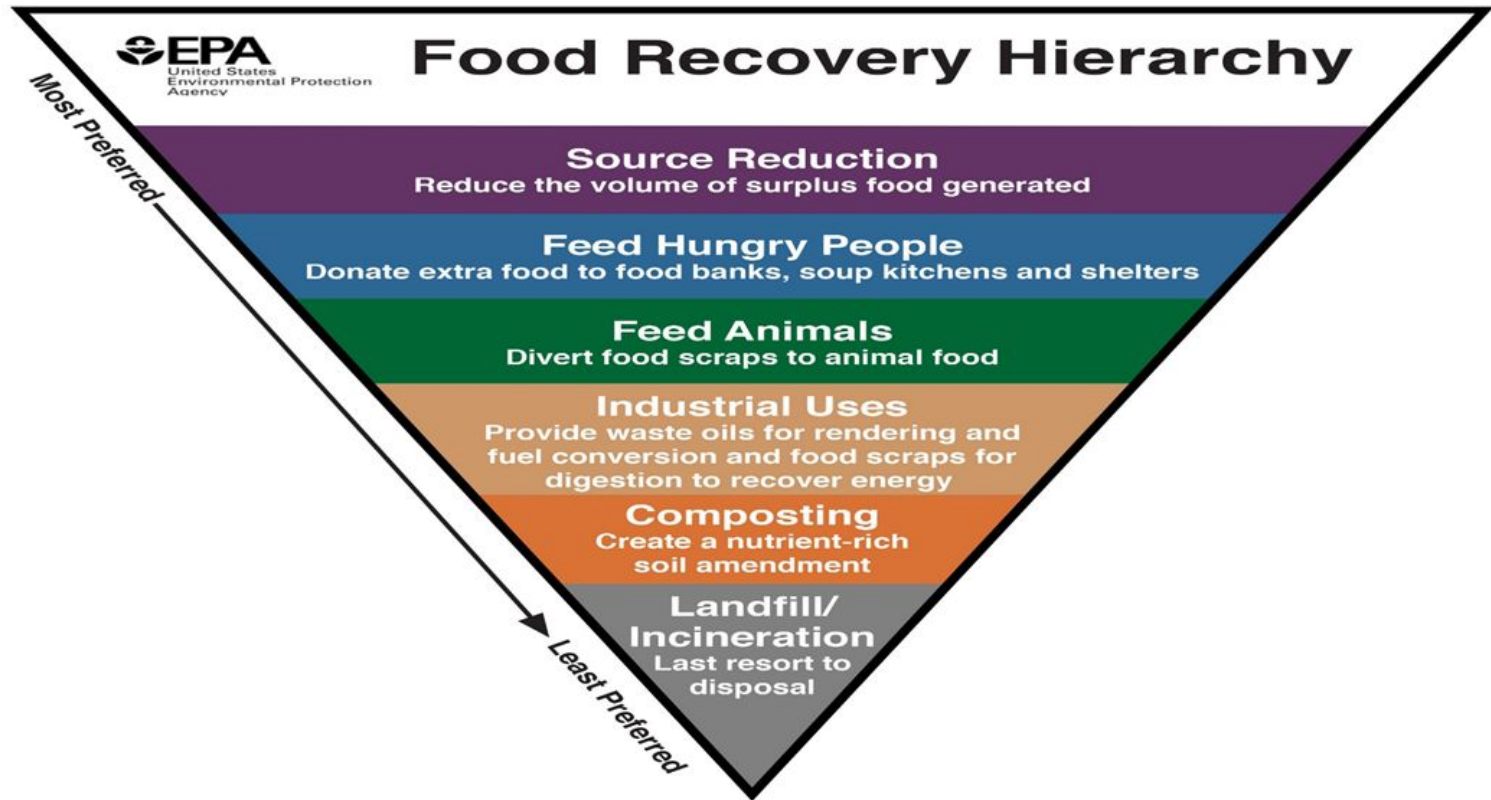
815 million are currently hungry due to:

- their lack of resources,
- an extremely unequal income distribution in the world,
- conflict within specific countries.

# Global Food Waste & Loss – Current Food Crisis



# Food Recovery Hierarchy – based on EPA



# UN Sustainable Development Goal

- Global food security and the end of world hunger by 2030;
- Achieving food security means that all individuals will have access, at all times, to enough nutritious food to live a healthy life;
- **There is sufficient food produced (1.5X) in the world to feed the entirety of the world's Population.**



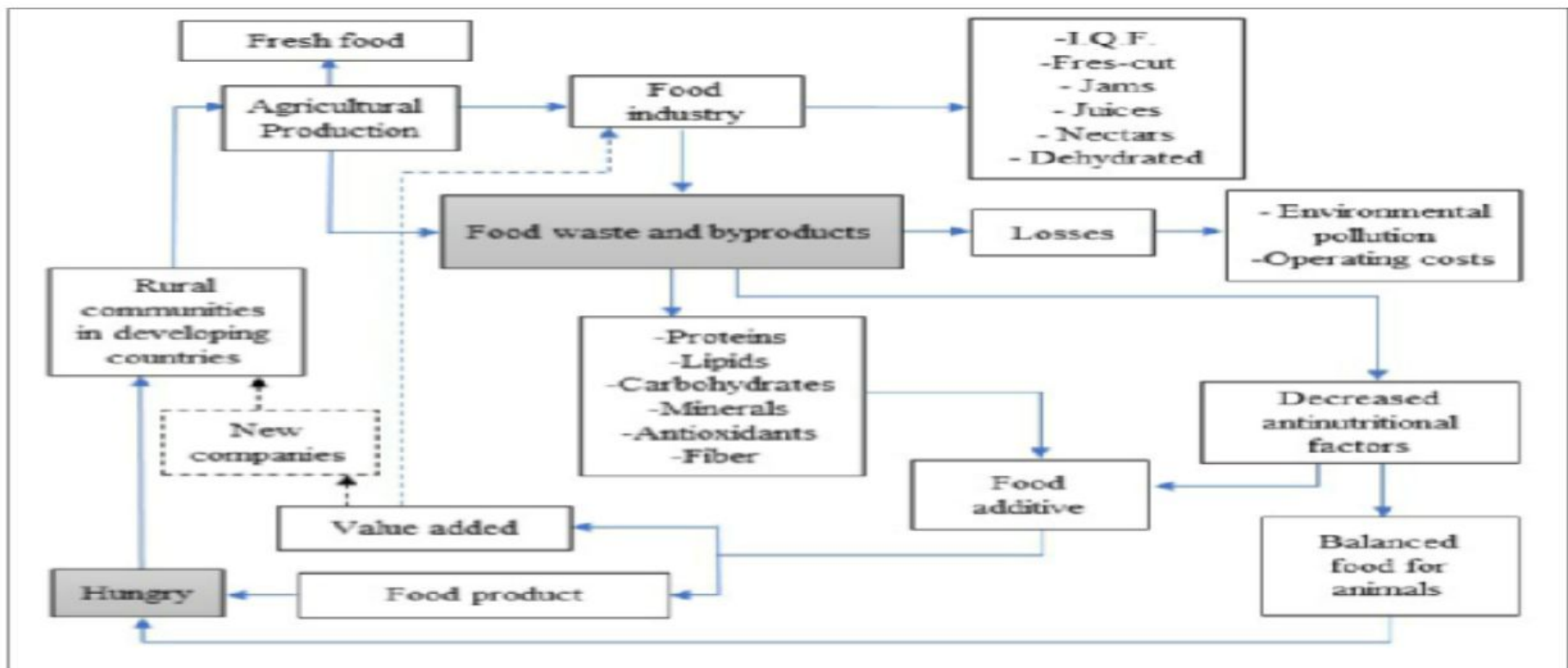
# Food Security according to FAO

- Availability of food;
- Accessibility of food;
- Utilization of food (i.e., Acquiring food safely and receiving a balance of nutrients);
- Stability of food supply (i.e. resiliency to shocks in the food supply system).

# Strategies to Combat Global Hunger through Food Waste Management

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# Example for waste food conversion to healthy food products



# Reducing Food Loss & Waste

- Reducing Production Losses
- Post-Harvest Handling and Storage
- Distribution and Retail
- Supermarket Contracts
- Supermarket Appearance Quality Standards
- Food Expiration Dates
- Operations of Supermarkets/Restaurant
- Changing Consumer Behavior
- Technical Changes to the Retail Environment
- Household Food Waste
- Redistribution of Food

# Conclusion

- Food waste has been a critical challenge for human in the last few decades;
- International and national organizations are aiming to combat hunger by controlling food waste and loss through procedures, processes, and policies;
- There is sufficient food produced to feed the entire population of the world, but the paramount problem is the management of food waste and loss.
- There has been several approaches to utilize food waste, in other words, recycling the wastes, and convert them to value-added products.

# Appreciation

Thank you for your attention.