



# FOOD WASTE

## 101

An Introduction to the Food Waste Issue in  
Southeast Asia & Malaysia



# FOOD WASTE DEFINITION

There is no unifying definition of food waste; different terms, with varying or overlapping meanings, are used by scholars to describe food loss and waste.<sup>[1,2]</sup>

Sometimes, food waste and food loss are separated out by where they are in the supply chain, or can be separated out by where the loss happens.<sup>[1,2]</sup>



# FOOD LOSS VS FOOD WASTE



## Food Loss

## Food Waste

### Definition

- The decrease in edible food mass during the production, post-harvest, and processing stages

- Edible food discarded at the retail and consumer levels

### Common Causes

- Mechanical damage and spillage during harvest
- Poor storage and transportation issues

- Consumer behavior (e.g., over-purchasing, lack of meal planning)
- Confusion over "best-before" dates
- Retail standards rejecting food for imperfect appearance or size

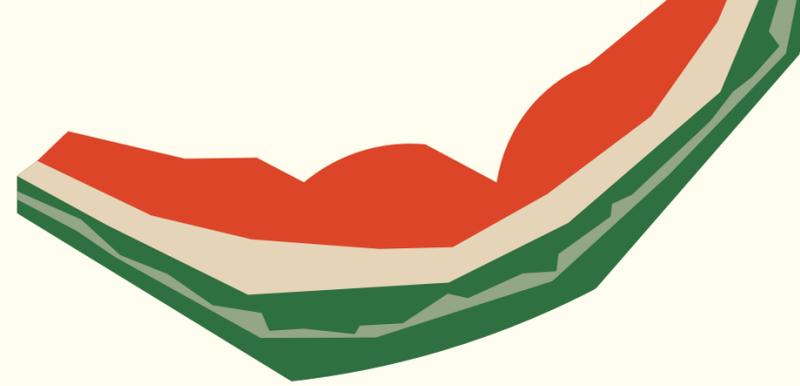


### Where & When it Happens

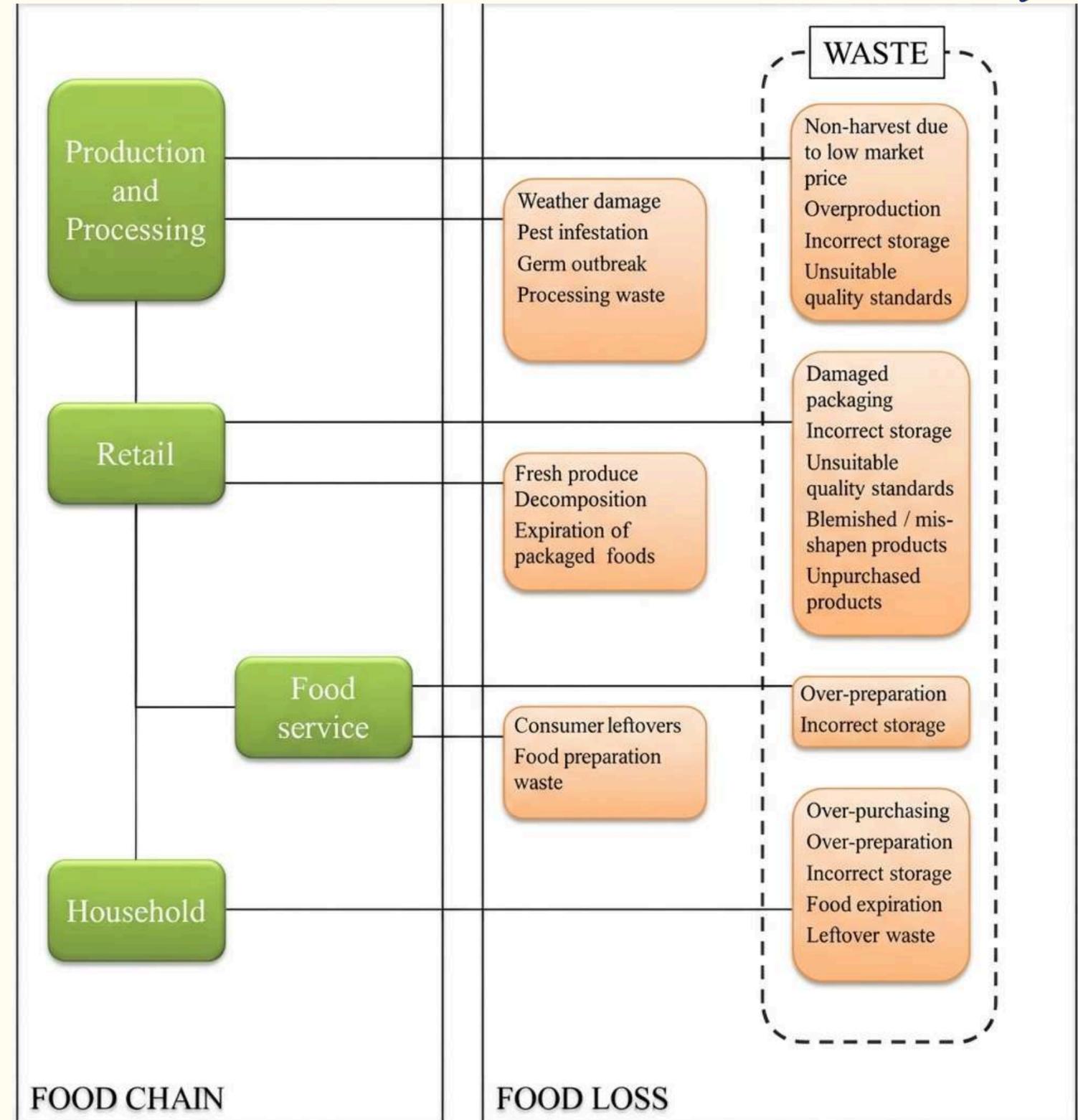
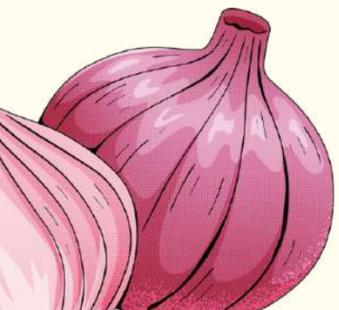
- In the early and middle stages of the supply chain
- More common in low-income countries

- Occurs mainly at the end of the supply chain (stores, restaurants, and households)
- More common in medium- and high-income countries





# FOOD LOSS AND WASTE WITHIN THE FOOD CHAIN



[Adapted from: 4]

# SDG GOAL 12

Ensure sustainable consumption and production patterns<sup>[5]</sup>

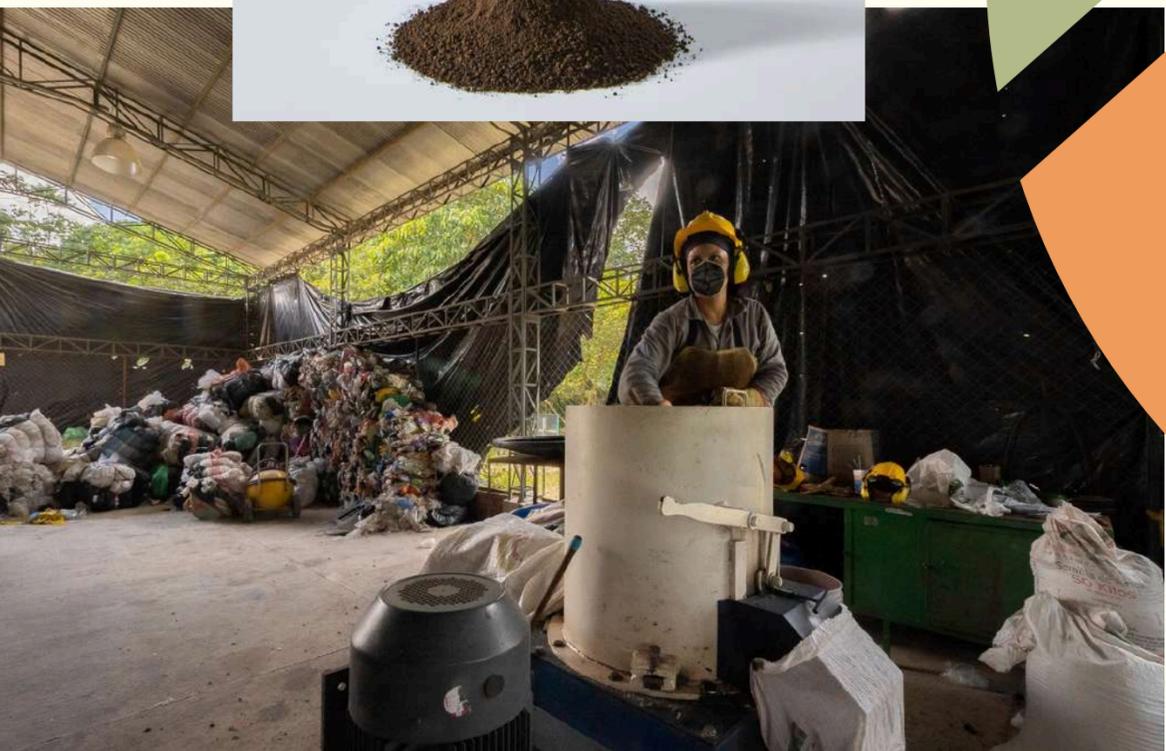
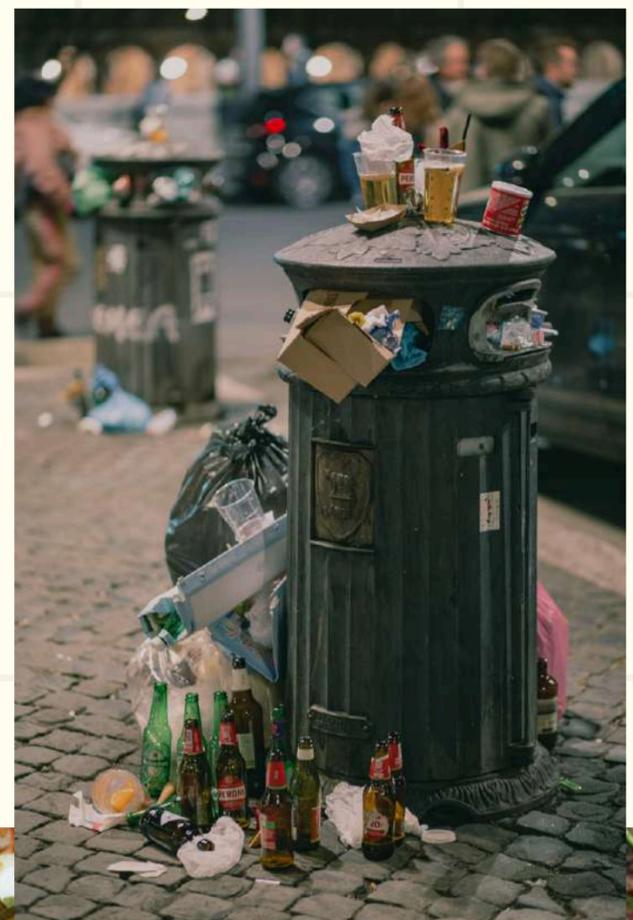
**Target 12.3**

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses<sup>[5]</sup>



[Image source: 5]

# FOOD WASTE & SUSTAINABILITY



# FOOD WASTE & SUSTAINABILITY

## SOCIAL IMPACT

### Hunger, Malnutrition and Food Security

- Food waste exacerbates global hunger, with millions of people suffering from food insecurity, while edible food is discarded.

### Social Inequality and Justice

- Food waste contributes to economic disparities, as many people in developed countries live in poverty despite the abundance of food.
- Marginalized groups face food insecurity while wealthier groups waste more.

### Urban Social Challenges

- Cities face more pressure from food waste filling landfills, which increases disposal costs and reduces available land.
- Urban households tend to waste more food than rural ones, where circular practices are more common. [6]



[Image source: 8]

Each day, households waste enough food to provide **over 1 billion meals**, while **1 in 11 people** face hunger and **1 in 3** lack access to a healthy diet. [7]



# FOOD WASTE & SUSTAINABILITY

## ECONOMIC IMPACT

### Financial Losses

- Food waste results in significant economic losses for businesses, households, and governments.
- Food loss and waste costs the global economy USD 1 trillion annually.

### Operational Costs

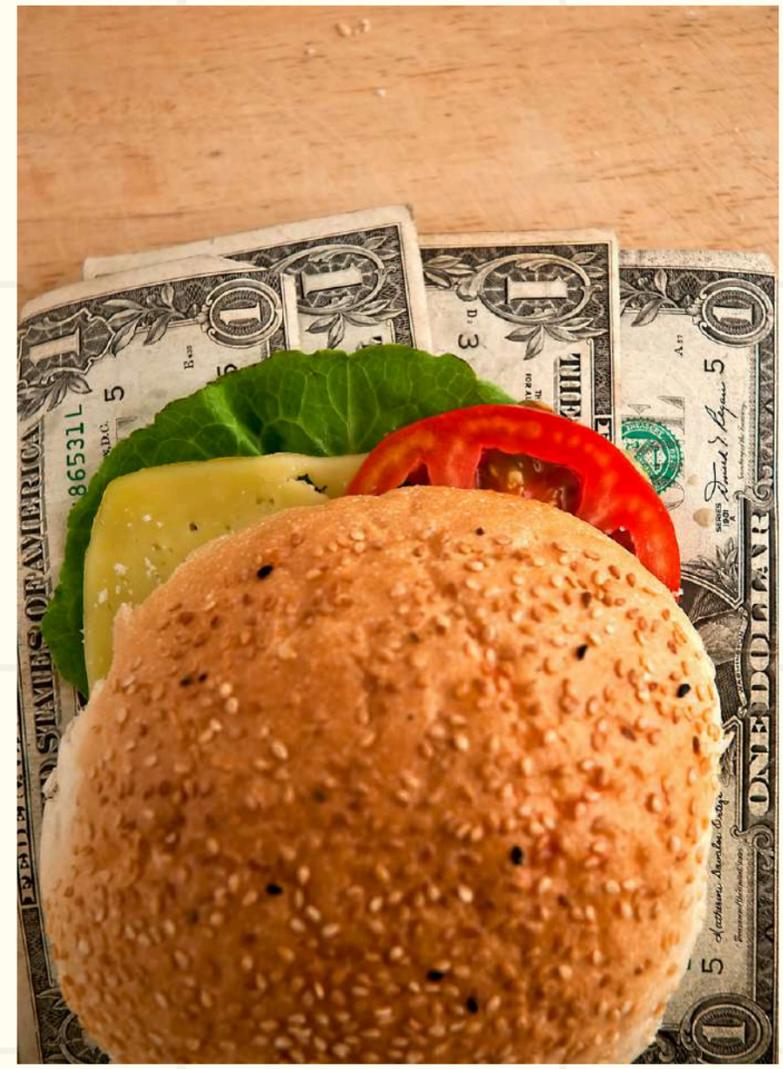
- Retailers and foodservice businesses face economic losses due to unsold or discarded food.

### Hidden Costs

- Unsold products are often classified as expenses, masking the true extent of food waste in financial records.

### Missed Opportunities

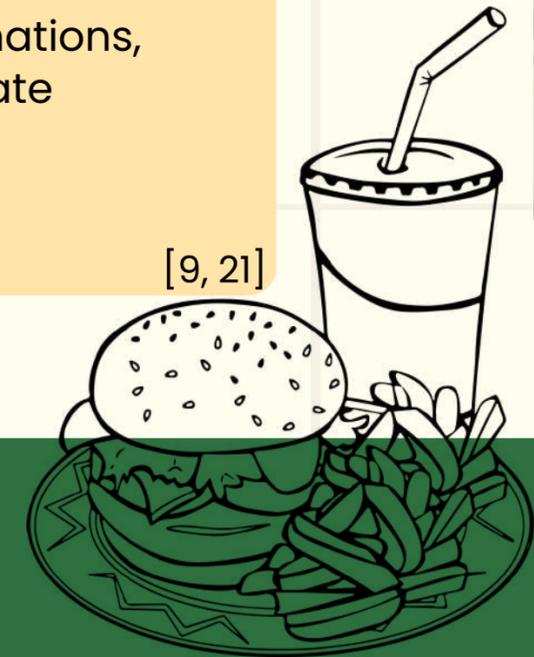
- Wasted food represents lost potential for donations, recycling, or repurposing, which could generate economic benefits.



[Image source: 10]



[Image source: 11]



[9, 21]

# FOOD WASTE & SUSTAINABILITY

## ENVIRONMENTAL IMPACT

### Greenhouse Gas (GHG) Emissions

- Decaying food in landfills releases methane, a potent GHG, contributing to climate change.
- Food waste accounts for about 8–10% of global GHG emissions

### Resource Depletion

- Wasted food represents a loss of resources such as water, energy, and labour used in production, processing, and transportation.
- It consumes the equivalent of almost 30% of farmland.

### Landfill Overload

- Millions of tons of food waste end up in landfills annually, leading to environmental degradation.

### Water Pollution

- Leaching from food waste in landfills pollutes water sources.

### Loss of Biodiversity

- Food waste impacts ecosystems and biodiversity due to the unnecessary use of land and resources.

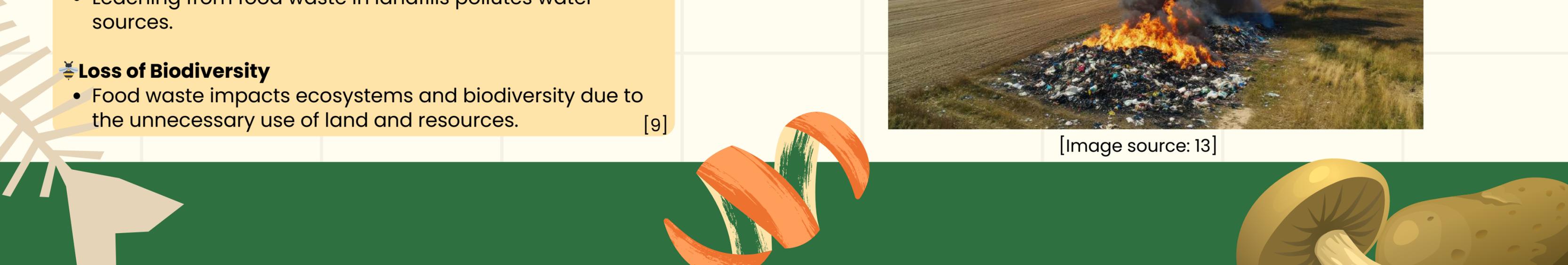
[9]



[Image source: 12]



[Image source: 13]



# FOOD LOSS IN ASEAN: WHAT IS HAPPENING?

Some ASEAN countries lose more food during farming, storage, and transport than others

## 🌍 Higher food loss in less-developed ASEAN countries

- Cambodia, Laos, Myanmar, Vietnam lose more food relative to their economies

## 🏠 Cambodia has the highest food loss

- About 1.6% of its GDP lost due to food loss
- Linked to weaker storage, transport, and post-harvest systems

## 🌾 Rice is the most wasted food

- Major source of food loss in most ASEAN countries

## 🌴 Malaysia is different

- Palm oil accounts for the largest share of food loss

[14]



[Image source: 15]

# WHAT NEEDS TO CHANGE?

## Economic Growth ≠ Less Food Loss

- As ASEAN economies grow, food loss actually increases
- Example: In Cambodia, 1% economic growth → 2.5% increase in food loss
- Growth without sustainability leads to more waste, not less

### Adopt a circular economy for food

- Reuse, recycle, and recover food resources

### Improve farming, storage, and transport

- Invest in better post-harvest technologies

### Focus on inclusive & sustainable growth

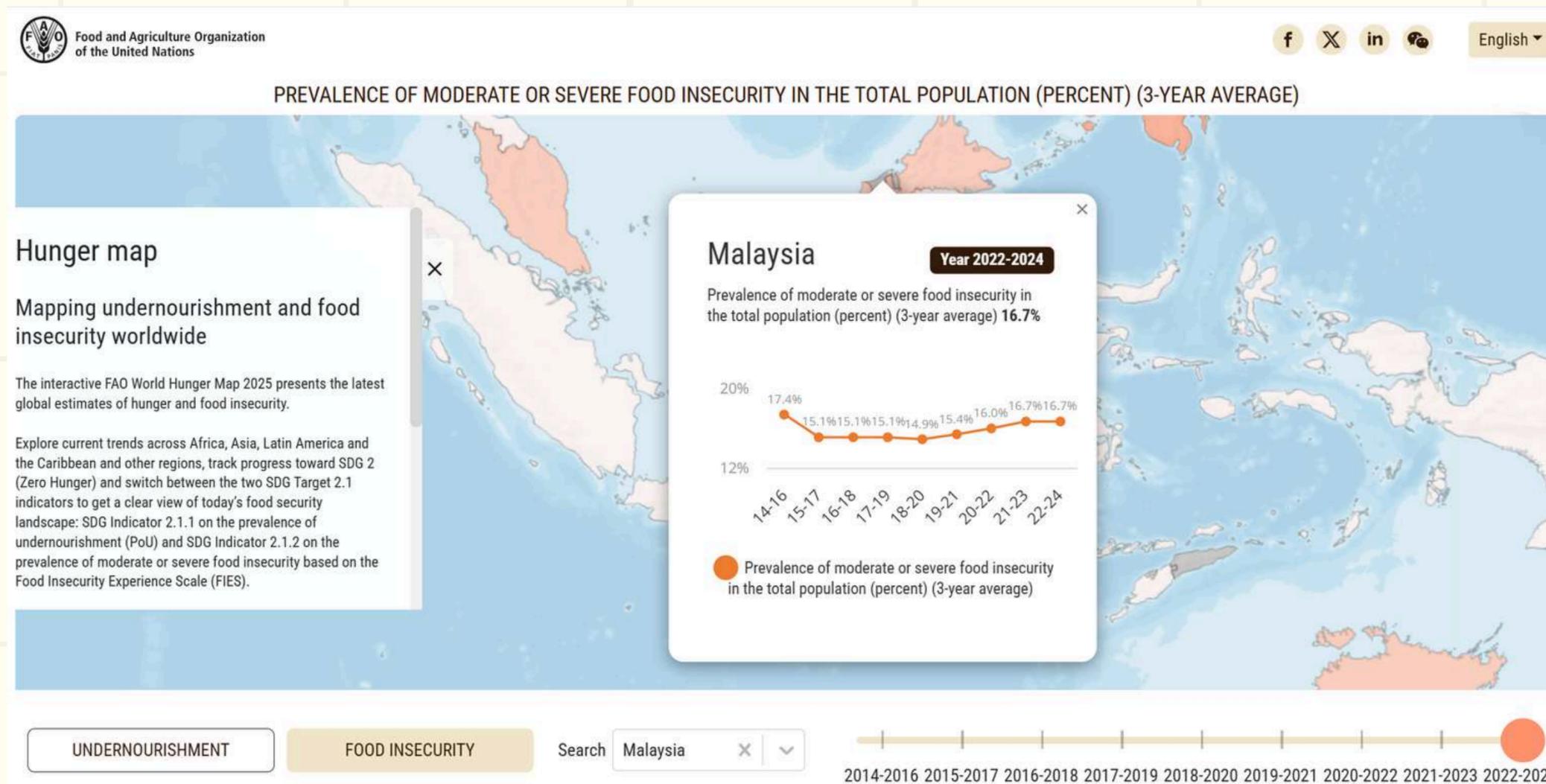
- Economic progress should reduce food loss, not increase it

**Reducing food loss is essential for sustainable economic growth in ASEAN**

[14]

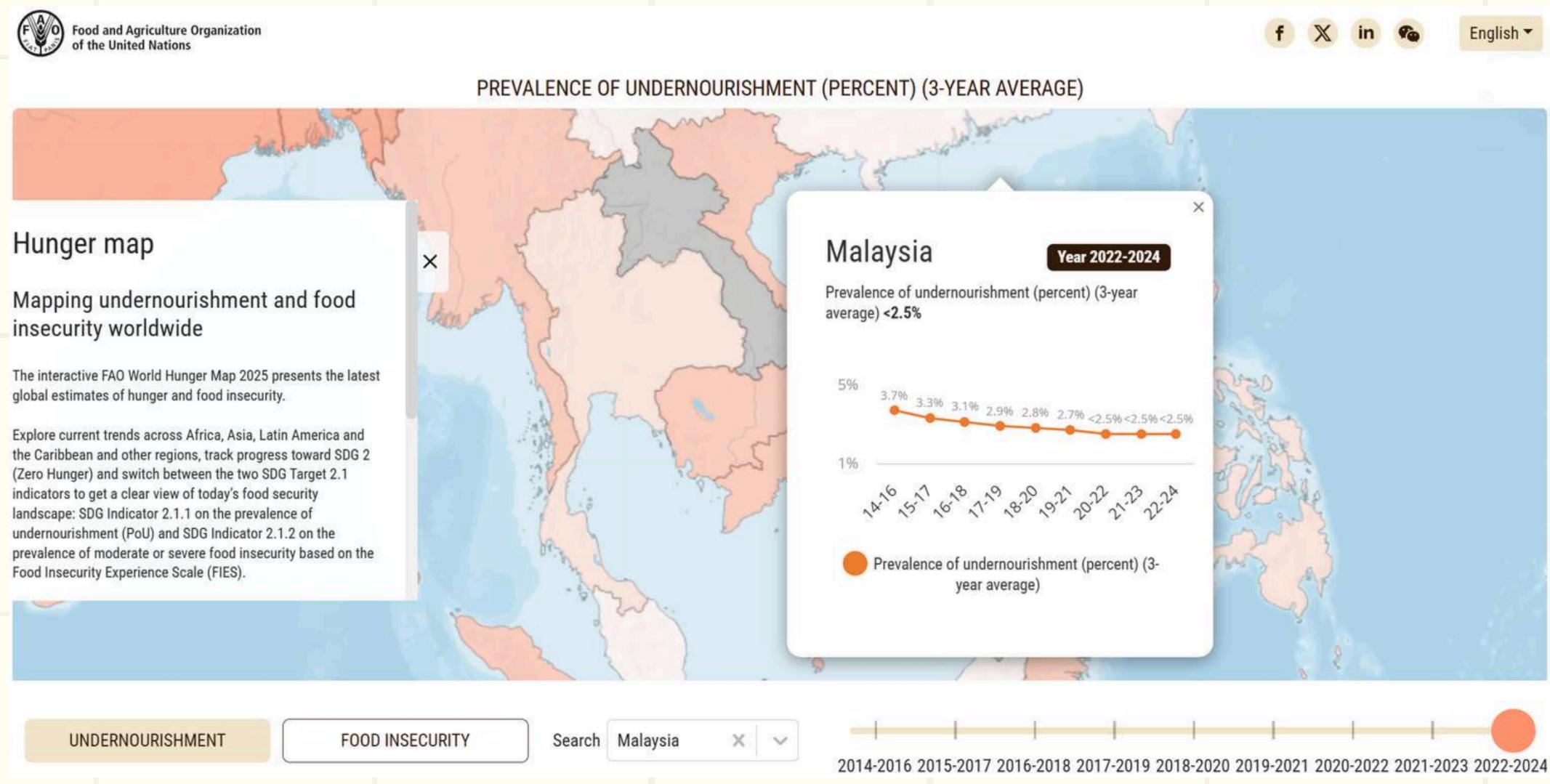


# PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN MALAYSIA



This screenshot from the FAO World Hunger Map displays Malaysia's latest 3-year average for the **prevalence of moderate or severe food insecurity** in the total population (percent).

# PREVALENCE OF UNDERNOURISHMENT IN MALAYSIA



This screenshot from the FAO World Hunger Map displays Malaysia's latest 3-year average for the **prevalence of undernourishment food insecurity** in the total population (percent).



# WHY DO WE WASTE FOOD AT HOME IN MALAYSIA?



## We buy more than we need

- Poor meal planning and impulse buying lead to unused food



## Spending awareness

- Households that pay closer attention to food costs waste less



## Leftovers are often underused

- Simple habits like freezing food and re-cooking leftovers significantly reduce waste



## Food type isn't the main issue

- What people eat matters less than how they manage food



## Household patterns

- Based on 400+ households
- Men reported wasting more food than women

[17]



# WHAT CAN PEOPLE DO TO HELP?



# ACTIONS FOR INDIVIDUALS



## Better food habits

- Plan meals in advance
- Check your fridge and pantry before shopping



## Smarter food shopping

- Practice responsible food purchasing
- Avoid impulse buying and bulk purchases you may not finish



## Use leftovers wisely

- Freeze leftovers before they spoil
- Turn leftovers into new meals



## Store food properly

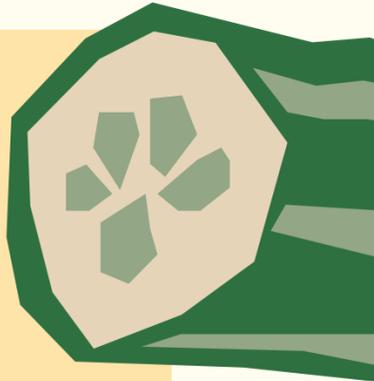
- Use airtight containers
- Learn which foods belong in the fridge versus the pantry

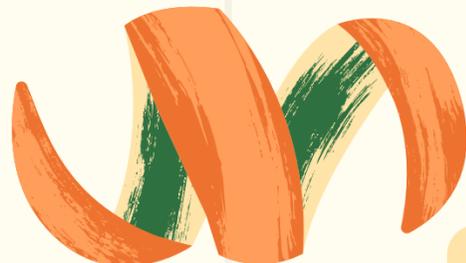


## Understand date labels

- “Best before” does not mean unsafe to eat
- Use your senses before throwing food away

[17,18,19]





# ACTIONS FOR ORGANIZATIONS AND BUSINESSES



## Educate & Engage

- Run public awareness campaigns
- Share practical food-saving tips through social media



## Plan & Manage Food Better

- Use older stock first and organise inventory clearly
- Train staff to prevent spoilage and over-ordering



## Reduce Plate Waste

- Offer smaller or flexible portion sizes
- Use smaller plates and serving utensils



## Redistribute Surplus Food

- Donate safe surplus food to food banks
- Use technology to streamline food recovery



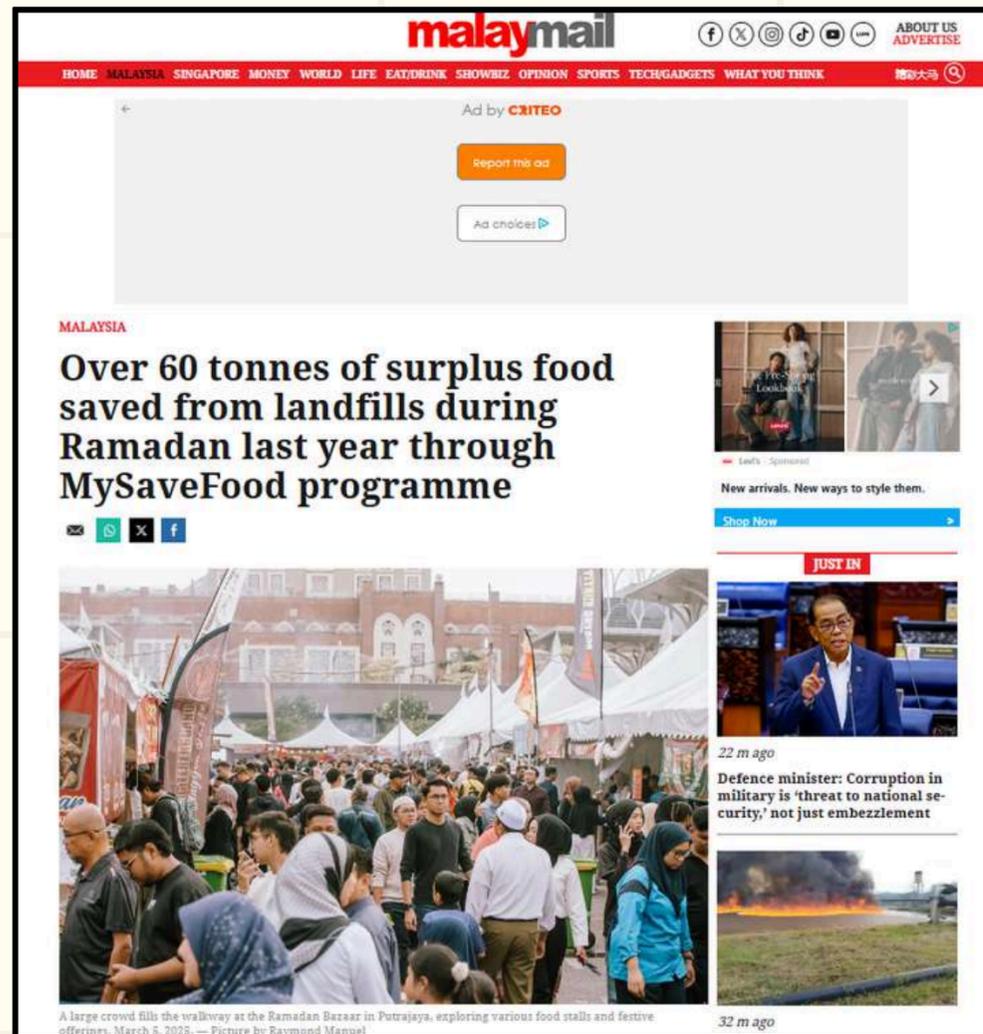
## Turn Waste into Resources

- Convert unavoidable food waste into energy

[17,20]

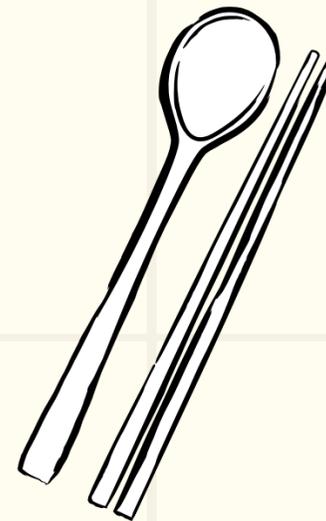


# POSITIVE EXAMPLES OF FOOD WASTE REDUCTION IN MALAYSIA



## MySaveFood Programme

- Rescues surplus food during Ramadan and redistributes it to communities instead of landfills



## Pahang Composting Initiative

- Uses mobile composting machines at Ramadan bazaars to convert food waste into organic fertilizer



# POSITIVE EXAMPLES OF FOOD WASTE REDUCTION IN MALAYSIA

**BURSA MALAYSIA** | Bursa Malaysia | Bursa Anywhere | Bursa Assist | Explore MyBURSA

Market Information | Trade | Listing | Regulation | Reference | About Bursa | Market Summary | Company Announcements

**re.Food**

re.Food is Bursa Malaysia's flagship food waste management programme that aims to reduce food waste disposal to landfills. Through re.Food, we aim to engage our capital market community to create a movement to drive sustainable behavior change towards food waste prevention while helping the underprivileged.

The programme consists of two parts:

- 1) Donating edible excess food to B40 communities
- 2) Turning non-edible food waste into compost or fertilisers to be used at B40 community gardens

Employees at offices of participating corporates may donate their edible excess food by placing them in Bursa Malaysia's food box. These food items will be collected and distributed to the B40 community by our partner organisations.

Food waste from canteens or eateries will be processed into compost using a composting machine placed at the premises of the participating corporates. This fast and convenient method ensures that compost is produced in just 24 hours to be delivered to B40 community gardens.

We invite any capital market participant keen to participate in re.Food to contact us at [Yayasan@bursamalaysia.com](mailto:Yayasan@bursamalaysia.com)

**re.Food**  
Towards Zero Waste

re Food introductory

## re.Food Programme (Bursa Malaysia)

- Corporate-led initiative that donates edible surplus food and composts inedible waste

January 29, 2026 | UTM NEWSHUB | Vice Chancellor | Research Nexus | Achievements | Media Room | Expert Highlights | Community Engagement | Previous Year

**UTM anjur inisiatif kitar semula sisa makanan sepanjang bulan Ramadan**

JOHOR BAHRU, 13 Mac – Universiti Teknologi Malaysia (UTM) terus menunjukkan komitmen yang berterusan terhadap usaha memelihara kelestarian alam sekitar dengan melancarkan inisiatif mengitar semula sisa makanan selepas majlis berbuka puasa (iftar) yang diadakan di Masjid Sultan Ismail, UTM.

Pengarah Pusat Islam UTM (PIUTM), Prof Madya Dr. Ahmad Che Yaacob berkata inisiatif yang bersifat 'Serampang Dua Mata' yang diadakan sepanjang bulan Ramadan ini bermatlamat untuk mengajak seluruh warga UTM yang merangkumi pelajar, staf dan pensyarah untuk menyertai usaha kitar semula. Program ini juga bertujuan untuk

## Universiti Teknologi Malaysia (UTM)

- Campus-based food waste segregation and recycling initiatives during Ramadan

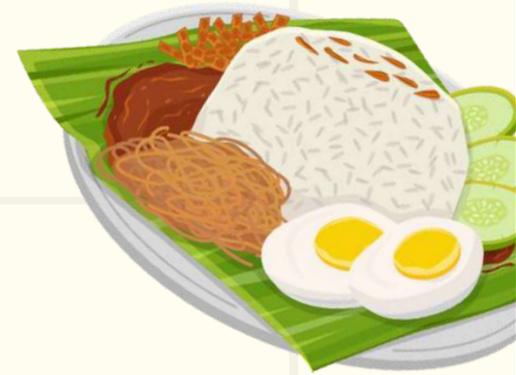


# POSITIVE EXAMPLES OF FOOD WASTE REDUCTION IN MALAYSIA

**Inisiatif program Towards Zero Food Waste UPMKB berjaya kurangkan lebih 500kg sisa makanan**



BINTULU, 25 Mac – Universiti Putra Malaysia Kampus Bintulu (UPMKB) dengan kerjasama Lembaga Kemajuan Bintulu (BDA) berjaya mengurangkan lebih 500 kilogram sisa makanan di Bazaar Ramadan BDA, Esplanade Bintulu menerusi inisiatif 'Towards Zero Food Waste in Bintulu'.



## Universiti Putra Malaysia (UPM)

- Towards Zero Food Waste programme, reducing and redistributing hundreds of kilograms of food waste



## Festive Food Waste Prevention

### (The Ministry of Housing and Local Government (KPKT))

- Targeted food waste reduction campaigns during major festive seasons such as Deepavali





**WHEN WE REDUCE FOOD WASTE,  
WE CONTRIBUTE TO STRONGER  
COMMUNITIES, A HEALTHIER  
PLANET, AND A BETTER FUTURE.**

**THE CHANGE STARTS WITH US.**



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