“Thai Strategy on Food Waste”
International Workshop on Food Loss and Waste Prevention targeting the Southeast and East Asian Region
18 October 2019

Anuda Tawatsin
Pollution Control Department, Ministry of Natural Resources and Environment Thailand
calls countries and companies to action: 

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.
Food Supply Chain

Food Loss
52% (Global average)

Food Waste
46.7% (Global average)

Primary production 25.5%
Post harvest handling and storage 22.5%
Processing and packaging 5.2%
Distribution and retail 12.8%
Consumption 33.9%

12.3.1 Food Loss Index (FAO)
12.3.2 Food Waste (UN Environment)
Scope for Food Waste Reduction in Thailand

**Food Retail** – Markets, Department stores, Supermarkets, Convenience stores

**Food Service Providers** – Hotels, Restaurants, Food courts, Canteens in various institutions

**Consumers** – Households and Temples
Food Recovery Hierarchy

Source Reduction
Reduce the volume of surplus food generated

Feed Hungry People
Donate extra food to food banks, soup kitchens and shelters

Feed Animals
Divert food scraps to animal feed

Industrial Uses
Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy

Composting
Create a nutrient-rich soil amendment

Landfill/Incineration
Last resort to disposal

US EPA, 2019
What is Food Waste?

Food plants and animals

Food

Non-food parts

Food consumed

Food loss and waste

Non-food parts

Animal feed

Biomass

Incineration

Disposal

Total Municipal Solid Waste

27.93 million tonnes/year

- 35%: 9.76 million tonnes/year (Waste Utilisation)
- 39%: 10.85 million tonnes/year (Disposed Properly)
- 26%: 7.32 million tonnes/year (Disposed Improperly)
Thailand MSW amount: 2008 – 2017 (million tonnes)
Waste Composition

- Plastic 17%
- Paper 8%
- Glass 3%
- Metal and aluminum 2%
- Other 3%------
- Household Hazardous waste 3%-----
- Recyclable waste 30%----
- Organic Waste 64% -

• Garden Waste – leaves, grass, flowers, plant trimmings,…
• Kitchen Waste – Fruit/Veg peelings, egg shells, bones etc.
• Food Waste – Food for human consumption but discarded

4 major cities in Thailand: Food waste and parts associated with food 33-50 %

(PCD, 2004)
## Framework

- **3Rs concept**
  - (Reduce, Reuse, Recycle)

- **Proper disposal methods, centralized facilities**
  - waste utilization
  - waste to energy

- **Participation from all sectors**

## Strategy

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<thead>
<tr>
<th>1. Source Reduction</th>
<th>![Recycle Icon]</th>
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<tbody>
<tr>
<td>Reuse and Recycling</td>
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<td>Sustainable Consumption and Production</td>
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<thead>
<tr>
<th>2. Increase Capability</th>
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<td>Collection, Transportation, Treatment</td>
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<td>Centralized Facilities</td>
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<td>Law development and enforcement</td>
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<th>3. Support Management</th>
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<td>Raise awareness and Instill Discipline</td>
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<td>Develop Knowledge</td>
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<td>Technology</td>
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<td>Data management</td>
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<td>Incentives</td>
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<td>Social and Economic Instruments</td>
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1. Municipal solid waste are disposed properly (19.6 mil tonnes)

2. All accumulated waste are disposed properly (30.5 mil. tonnes)

3. Household hazardous waste are collected and disposed properly (0.17 mil tonnes)

4. All infectious waste are collected and disposed properly (0.05 mil tonnes)

5. All hazardous industrial waste management collected and disposed properly (2.06 mil tonnes)

6. Local government organizations have systems for waste separation at the source (households) (3,889 LGO)

Goals

More than 75% (by 2021)

More than 50% (by 2021)

100 % (by 2019)

100 % (by 2020)

100 % (by 2020)

More than 30% (by 2021)
### Related Plans and Policies

#### Sustainable Consumption and Production Plan 2017-2038

**17. Food Waste Reduction**

Target 5% per year 2021-2030


**1.2 Organic Waste Reduction**

**2.2 Utilization of Organic Waste**

Target 25% by 2025 and 50% by 2030

#### National Food Management Strategic Plan (II) 2018-2037

Target Reduce the amount of Food Loss and Waste

KPI - Food Waste data / Sub-Committee on Food Waste Reduction
Approaches to Food Waste Management

- **Prevention and Reduction**
  - MBT
  - Compost
  - Landfill
  - Landfill gas

- **Utilization**
  - Animal Feed
  - Vermi-compost
  - Compost
  - Liquid Bio Compost
  - Anaerobic Digestion

- **Treatment and Disposal**
  - MBT
  - Compost
  - Landfill
  - Landfill gas

- **Most important**
  - Animal Feed
  - Vermi-compost
  - Compost
  - Liquid Bio Compost
  - Anaerobic Digestion
One leading supermarket with others following.

Implementation measures include
• Seasonal planning with food producers
• Ugly produce
• Transportation improvements
• Setting goals within the company
• Price reduction for prepared food in the evenings
• Food Surplus Sharing with SOS
• Composting
• Animal Feed
• Public Campaigns and Outreach
• Wholesale: call on regular customers
Many Hotels have started.

Sampran Riverside
Centara Grand at Central World
Marriott Marquis Queen’s Park Bangkok

Implementation measures include:
• Sustainable Policy
• Setting goals and targets
• “Pledge on Food Waste Certification”
• Staff Training
• Measurement and monitoring
• Creative use of food surplus and food waste
• Customer and Public Outreach

Average FW: 98.51 g/customer
Breakfast Buffet: 135 g/customer

Thailand Convention and Exhibition Bureau – TCEB
Pacific Asia Travel Association - PATA
Canteens

ESCAP
- 2017 Week Random FW sampling 58 g/customer

Pollution Control Department PCD
- 2018 Week Random FW sampling 54 g/customer
- 2019 Week Random FW sampling 36 g/customer
Scholars of Sustenance Foundation – SOS

- Matches Donors to Receivers- Logistics
- Donors include Hotels, Restaurants and Supermarkets
- Shares 880 kg Food Surplus everyday or 115,033 meals
- Donates 500 kg Food Waste to farmers for animal feed and composting everyday
- Food Safety Training
- Public Outreach
• Policy/Action Plans and Target setting
• Data measurement and monitoring
• Technical Guidelines
• Laws and Regulations