



Food Waste in Asia and the Pacific

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Outline of Presentation

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1. Introduction

One-third of food is lost or wasted globally



Social impacts

Food insecurity, hunger, malnutrition and loss of income



Economic costs

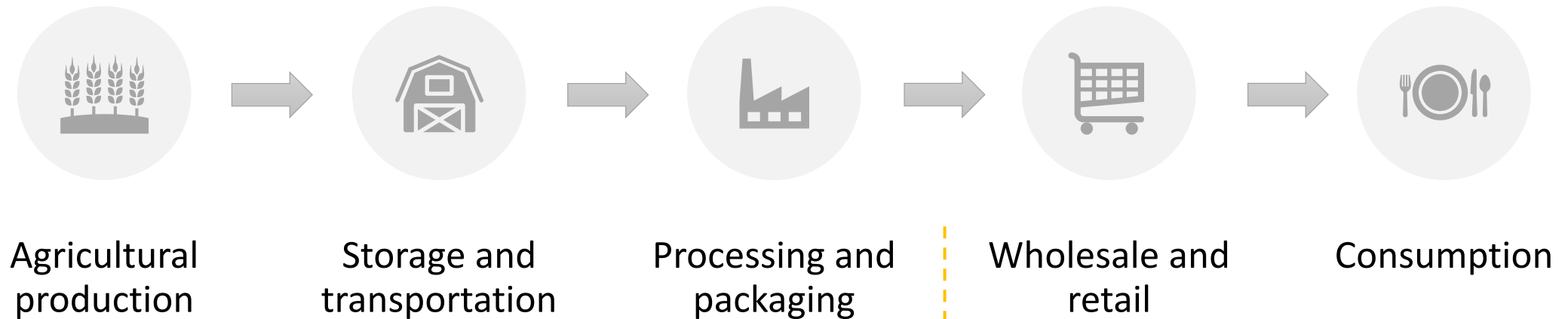
~US\$1 trillion annual loss



Environmental impacts

21 to 37 percent of greenhouse gas emissions

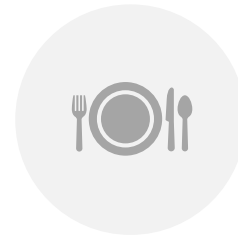
Food loss and food waste in the food system



Food loss mostly occurs at the production stage

Food waste mostly occurs at the retail and consumption

2. Causes of Increasing Food Loss and Food Waste



Agricultural production

- *Unpredictable weather*
- *Pests and plant diseases*
- *Produce did not meet quality standard*
- *Drop in price of harvested food*

Storage and transportation

- *Lack of proper storage facilities*
- *Poor transportation infrastructure*

Processing and packaging

- *Inadequate processing capacity/machinery*
- *Spoilage/damaged goods/rejects*

Wholesale and retail

- *Erratic demand patterns*
- *Overproduction/excess stocks*
- *Spoilage*

Consumption

- *Confusion on date labels*
- *Poor storage and stock management*
- *Oversized portions/leftovers*

3. National and local policies and programs on FLW

- Approaches to reducing food loss are closely connected to **food security** policies:
 - People's Republic of China's **National Food Security Planning Framework** aims to maintain arable land area and grain self-sufficiency, and establish modern logistic system.
 - Australia's **National Agricultural Workforce Strategy** aims to encourage the youth to work in rural and regional Australia
- Policies focus on **empowering farmers and farm enterprises**
 - improving agricultural knowledge and research,
 - strengthening technological and personnel capability, and
 - providing financial assistance

3. National and local policies and programs on FLW

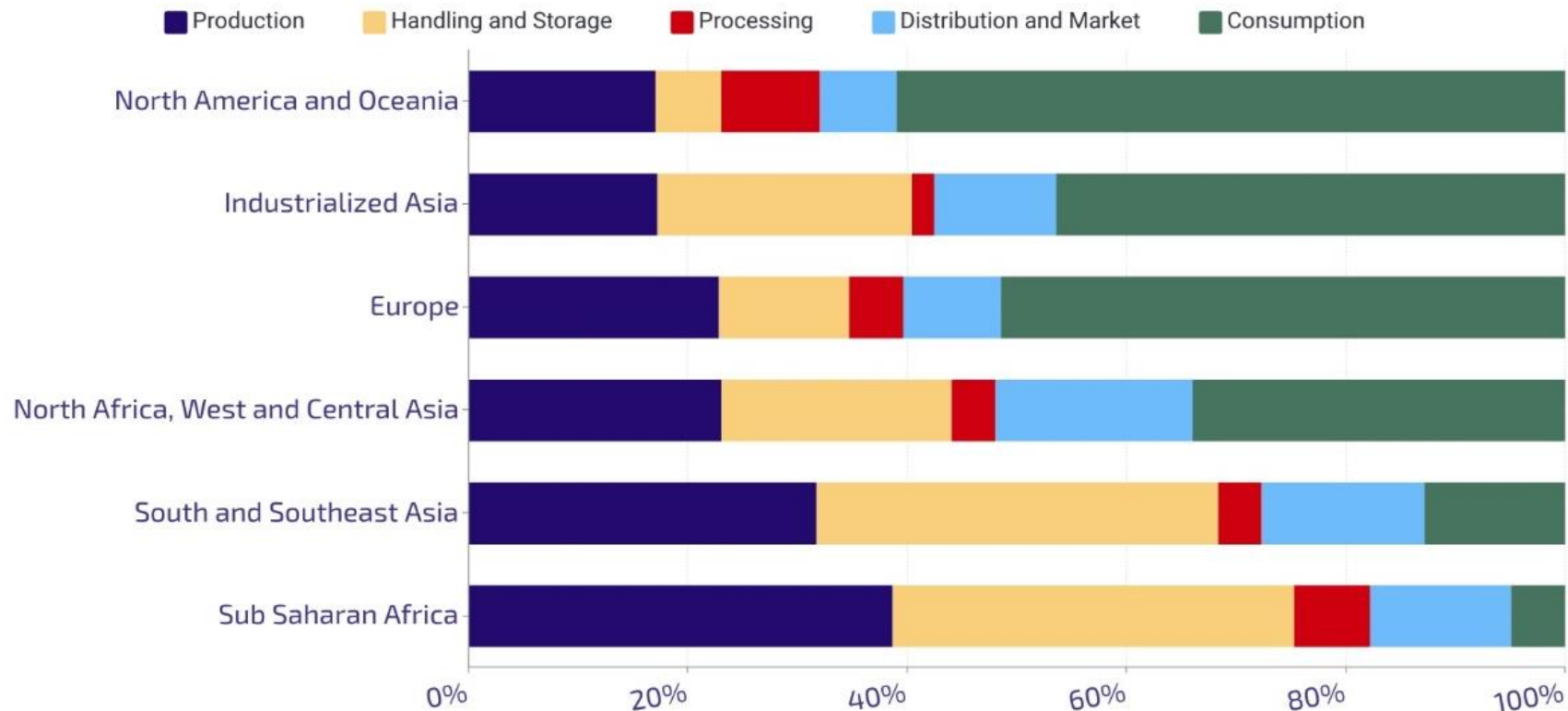
- Approaches to reducing food waste involve **recycling or repurposing** and **food rescuing and redistributing** excess food.
 - Japan's **Food Recycling Act** and **Act on Promotion of Food Loss and Waste Reduction** aim to limit the generation of food loss and waste and promote recycling.
 - In Seoul, Republic of Korea, the **“Pay As You Throw”** policy charges a fee for food waste disposal.
 - In Pakistan, the **Disposal of Excess Food Regulation of 2019** rewards restaurant and hotels supporting the initiative of reducing food waste and proper disposal of excess food.
 - In Auckland, New Zealand, the **Kai Ika initiative** collects discarded fish parts and distributing them to communities who value these parts.

4. Status of food loss and waste in the region

- **Ha Noi 3R Declaration Goal 10-1 (HNG10-1)** measures the **percentage of food loss** at each stage of the food supply chain.
- FAO and UNEP developed two indices, **Food Loss Index** and **Food Waste Index**, to measure and track the progress of SDG Target 12.3
 - **Food Loss Index** measures the percentage of food losses that occur from production level up to, but not including, retail level.
 - **Food Waste Index** measures food and inedible parts wasted at the retail and consumption levels (household and food service).

Goal 10-1 Status: regional variations in the contribution of each stage of the food system to total food loss and waste

Food Loss and Waste by Stage in Value Chain, Production to Consumption in 2009

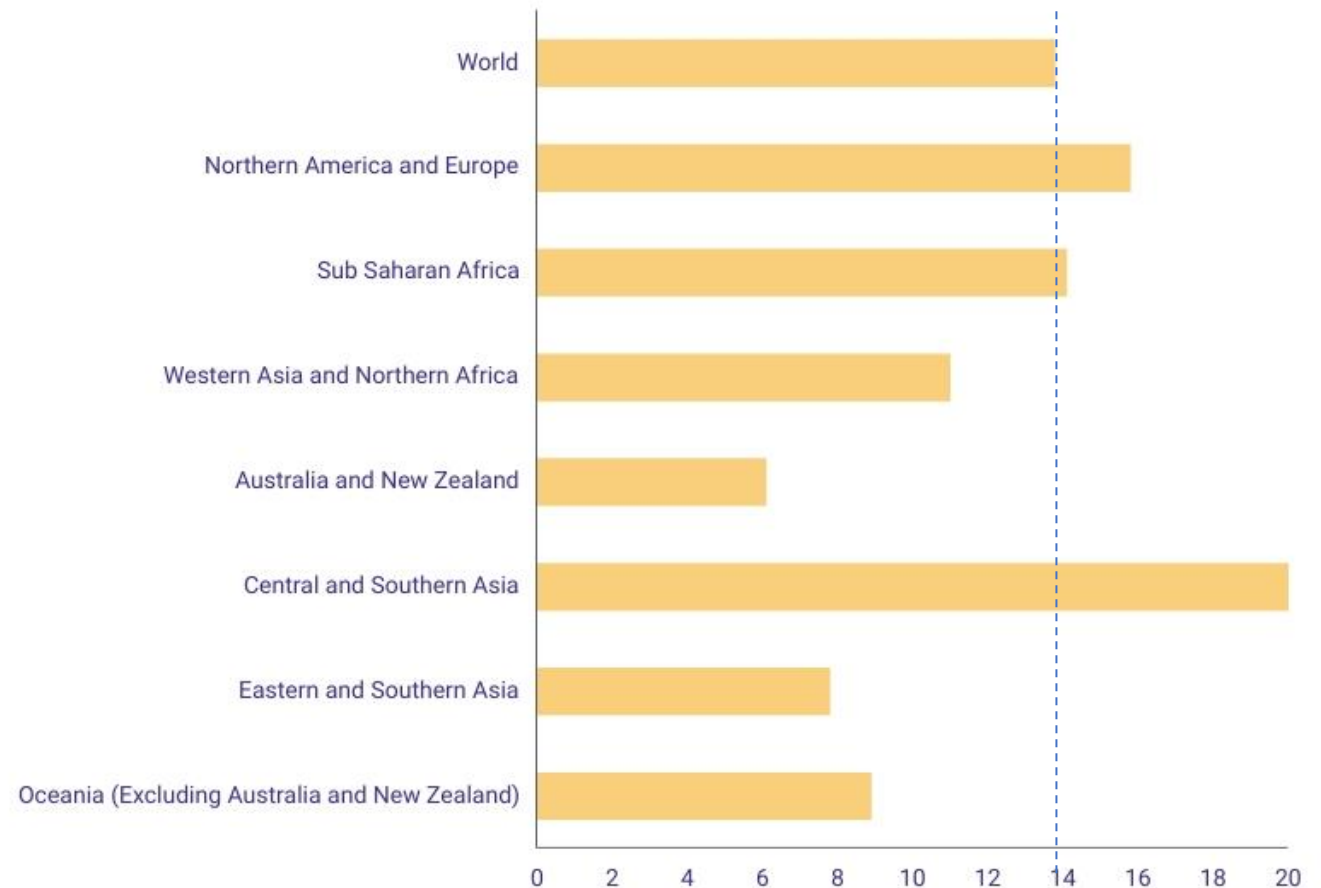


Food Loss Index

Significant food is lost even before it reaches the retail level and consumers. Central and **Southern Asia** represent the **highest food loss** while **Australia and New Zealand** have the **lowest**.

FOOD LOSS PERCENTAGE POST HARVEST TO DISTRIBUTION IN 2016, GLOBALLY AND BY REGION

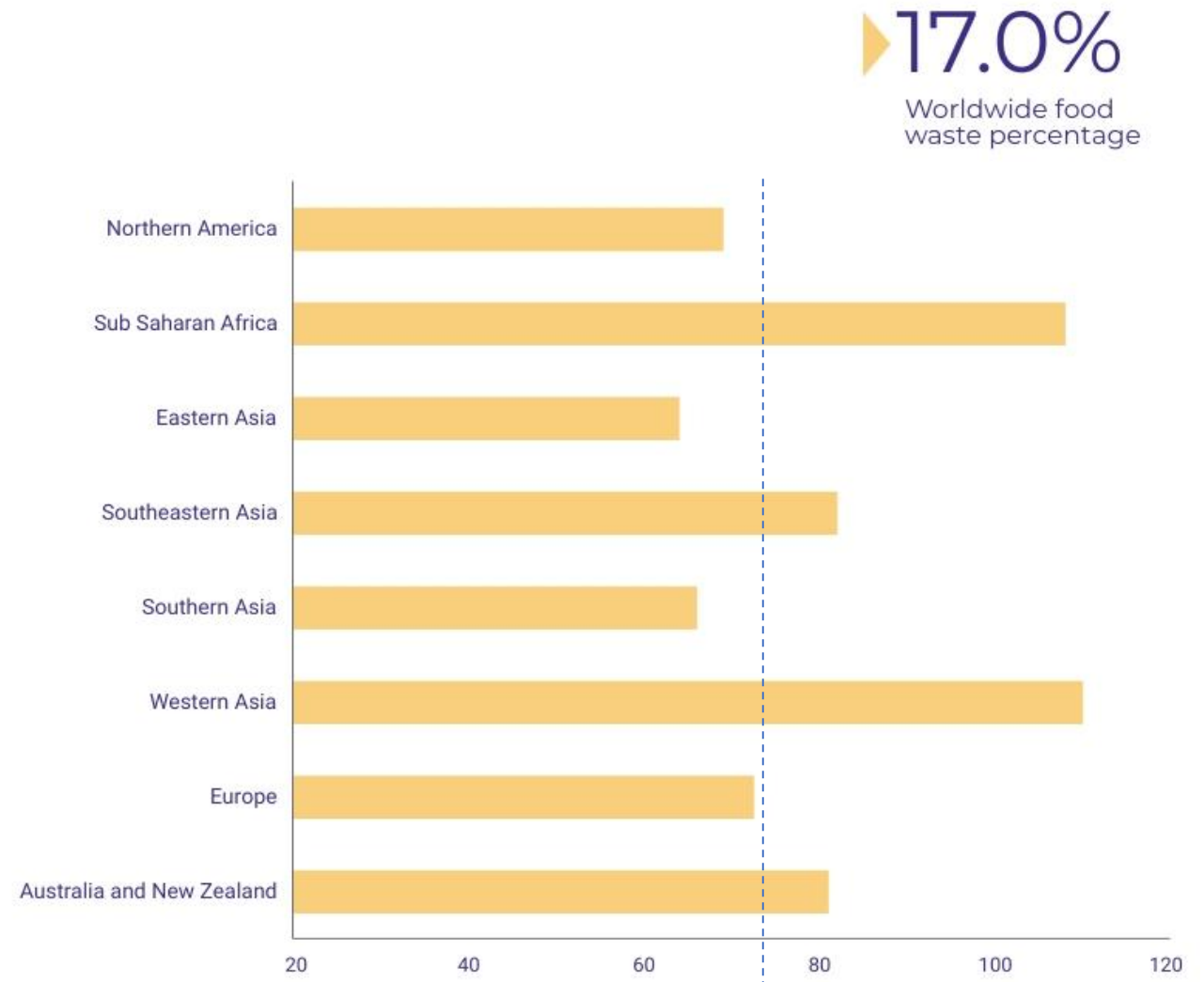
▶ 13.8%
Worldwide food loss percentage



Food Waste Index

- Worldwide food waste is at 17% (931M tons), and most of these come from households.
- Average per capita food waste generated per year is 74kg. Some methodological limitations:
 - Food waste covers both edible and inedible food
 - Recycled food waste is not included in data

AVERAGE HOUSEHOLD FOOD WASTE BY REGION, IN KG/CAPITA/YEAR AVERAGING MEDIUM TO HIGH CONFIDENCE ESTIMATES



5. Stakeholders Engagement in Reducing Food Loss and Waste – Technological Innovations



Agricultural production

Storage and transportation

Processing and packaging

Wholesale and retail

Consumption

Improvements in **production, storage, and transportation**

- cold storage systems
- cultivating equipment

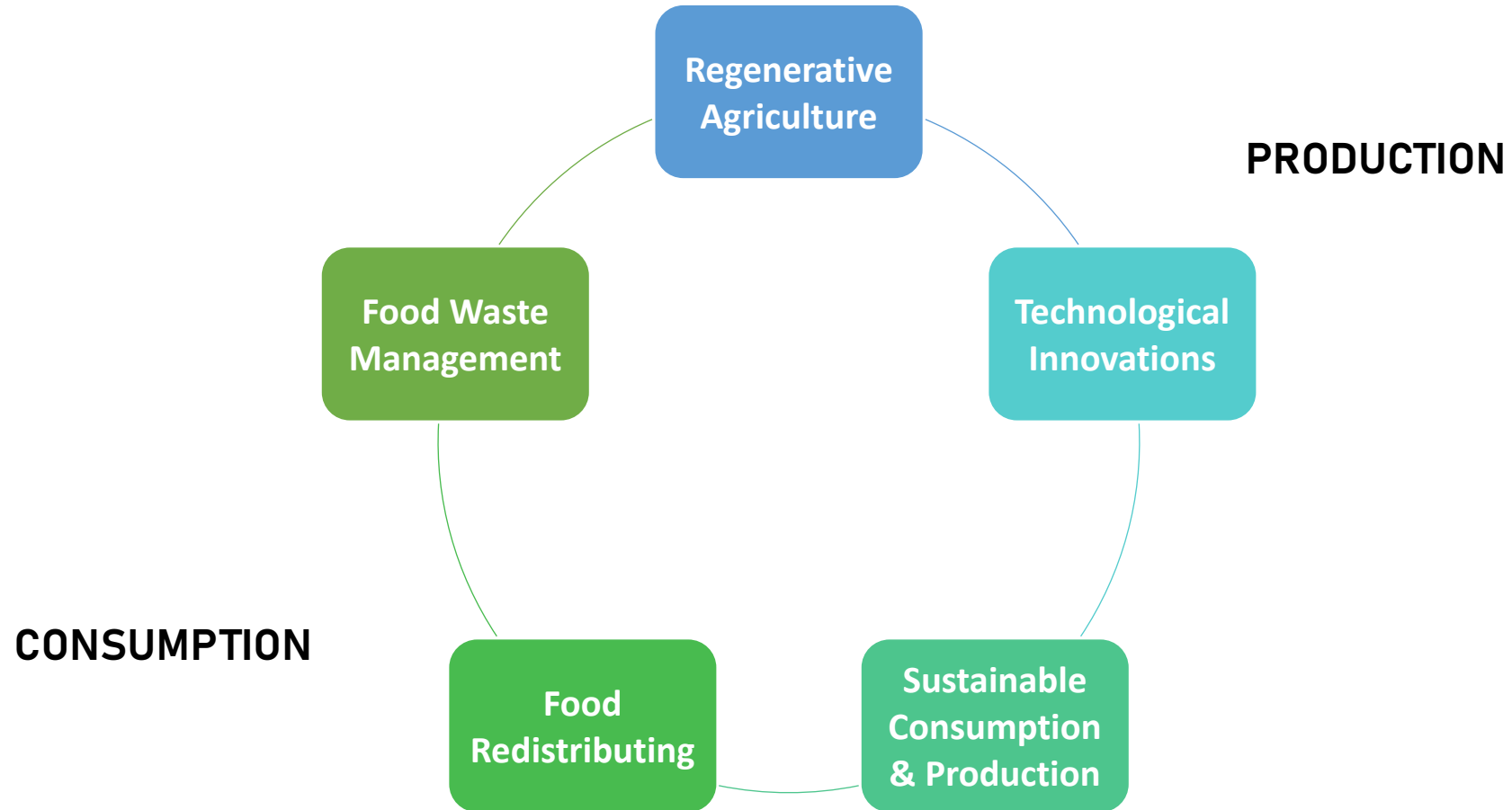
Most technological initiatives focus on **recycling/ conversion**

- Compost, fertilizers & feeds
- Waste to energy facilities

5. Stakeholders Engagement in Reducing Food Loss and Waste – Behavioral Change

- **Education and awareness campaigns focusing on food waste reduction** are the most common means implemented that target behavioral change.
- Regulatory and economic measures are also used to guide consumer behavior
 - The Food Waste Law of the People's Republic of China bans binge eating (mukbang) videos, competitive eating and excessive leftovers
 - The Republic of Korea's *Pay as You Throw* policy imposes a fee on food waste
- In Singapore, initiatives on selling produce that did not pass cosmetic standards at a discounted rate are emerging.

5. Food Waste Management: from Linear to Circular Economy



Case: Food Rescuing and Redistribution

- **Treasure** is a Singaporean application that allows consumers to pack home leftover food, primarily from buffets and hotels, an hour before closing time for 10SGD per box. In 2019, around 20 boxes of leftover food are saved every single day.
- **Surplus** is an Indonesian application which connects food merchants with surplus and near expiry food items with the consumers who can purchase their products at a discount. In total, the app was able to save about 1 ton of food waste and more than 3,000USD of expense was avoided.
- **Ecobuy App** awards consumers benefits in the form of reward points who use the app after buying products that are near expiry at a discounted price. The project was launched in Mini Piago Supermarket in partnership with Tokyo Metropolitan Government to reduce food waste in the metropolis.
- **SecondBite** is a non-profit organization in Australia that facilitates, rescues, and distribute food by linking farmers, retailers, and donors with the food banks. The rescued edible surplus and unsold food are distributed to over 1,400 charities to feed Australians in need.

Conclusion and Way Forward

- Food loss and food waste challenge food systems in ensuring food security and affordable food and nutrition.
- **SDG 12.3** and **Ha Noi Goal 10** can guide national goals to set food loss and waste reduction targets. **Monitoring** and **reporting** of **food loss and waste** need to be strengthened to support appropriate responses.
- The causes of food loss and waste in the region vary and may be influenced by food habits, culture, consumer behavior, and economic capacity. **Practical, sustainable, inclusive and circular economy** strategies and programs are needed to address the interrelated issues contributing to the challenges of **food loss and waste**.