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(Sustainable Consumption and Production Area, IGES)
Outline

1. Changes in food consumption pattern
2. Current Situation of Food Waste
3. Food Waste Recycling Law
4. Measures other than Law
5. Others related issues
1.1 Japanese food and its cultural

- “Washoku” -Japanese Cuisine-
  In 2013, it was registered as an Intangible World Heritage.

- “Itadaki-masu” (いただきます)
  “Itadaki-masu” is a phrase Japanese say before every meal which represents respect and gratitude for people who prepared dishes, people who cultivated crops and hunted animals and crops and animals which provided their lives to us.

- Techniques Not to Waste Foods
  Japanese people have been pursuing techniques to avoid wasting foods as much as possible. As the result, in Japan, variety of fermented food culinary culture blossomed.
1.2 Changes in food consumption pattern in Japan

- **Diversification & Westernization of diet**

(Watabe et al. 2016: Food Consumption in the City)
1.2 Changes in food consumption pattern in Japan

- Out-sourcing of food preparation (increase in eating out and or to purchase more ready-to-eat foods)

Household consumption expenditure for food

(Watabe et al. 2016: Food Consumption in the City)
1.2 Changes in food consumption pattern in Japan

- High levels of satisfaction with diet (90%)
- Increasing distancing - physically and psychologically
  - between farming and eating
  - between food business and consumer
  - between food and waste

⇒ Factors for food waste increasing

① during and after the second war; zero FW;
② the rapid economic growth period (during 1960s to early-1970s): low level of FW;
③ the period of stable economic growth and bubble economy (early-1970s to end-1990s): increasing levels of FW;
④ period of promotion of ”Sound material-cycle society” based on 3Rs (since 2001): decreasing levels of FW.
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2.1 Urgent Needs to Reduce Food Waste

■ At global level
  ➢ 32% of the food produced in the world for human consumption was lost or wasted (FAO, 2011),
  ➢ The 'SDGs' Goal 12.3 aims to "By 2030, halve per capita global food losses and waste along production and supply chains, including post-harvest losses"(UNEP, 2015).
  ➢ Reducing food losses/waste would contribute to abating interlinked sustainability challenges such as food security, natural resources shortages, climate change, SCP, and SD.

■ At Japan national level
  ➢ low food self-sufficiency rate (39% calories in 2015); the national target (45% in 2020);
  ➢ shortage of available landfill sites for waste disposal; and
  ➢ national directives for establishing a sound material-cycle society
Food waste reduction closely related other SDGS goals and targets.

The 'SDGs' Goal 12.3 calls for halving per capita global food waste at the retail and consumer levels and reducing food losses along production and supply chains (including post-harvest losses) by 2030.
2.2 Status of Food Loss & Waste in Food Supply Chain in 2011

(Liu et al. 2016; Food waste in Japan: Trends, current practices and key challenges)
2.3 Latest Data on Food Waste (2014)

**Food Waste and Valuable By-products** (19.5 Mil-t)
- Unedible (16.1 Mton)
- Edible (3.4 Mton)

**Food-Related Businesses** (Manufacturer, Wholesaler, Retailer, Restaurant)
- Food Waste (8.2 Mil-t)
  - Unedible (5.4 Mton)
  - Edible (2.8 Mton)

**Households**
- Food Waste (8.2 Mil-t)
  - Unedible (5.4 Mton)
  - Edible (2.8 Mton)

- Recycle (13.5 Mton)
- Thermal Recovery (0.5 Mton)
- Volume Reduction (2.3 Mton)
- Landfill (3.3 Mton)
- Recycle (0.6 Mton)
- Landfill (7.7 Mton)

**Wasted Food** (6.2 Mton; 29% of total)
134g/day/person

which is twice as much as the amount of annual world food aid by UN.
2.4 Main reasons of wasting food at household

Main reasons of wasting food at household

- Freshness, corruption, the occurrence of mold
- Best-before date/Expiring period passed
- Uneasiness of food safety
- Unfinished food

(資料：農林水産省「平成21年度食品ロス統計調査（世帯調査）」（複数（複数回答による）)
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3.1 The Food Recycling Law under the legal system for establishing a sound material-cycle society

Basic Environment Law

Basic Environment Plan

**Basic Act on Establishing a Sound Material-Cycle Society**

*Fundamental Plan for Establishing a Sound Material-Cycle Society*

*Fully in effect Jan. 2001*

<Review every 5 years>

Waste Management and Public Cleansing Act

<Proper treatment of waste>

Act on the Promotion of Effective Utilization of Resources

<Promotion of material recycling>

- **Containers and Packaging Recycling Law**
- **Food Recycling Law**
- **Home Appliance Recycling Law**
- **Construction Material Recycling Law**
- **End-of-Life Vehicle Recycling Law**
- **Small Electrical and Electronic Equipment Recycling Act**

**Formulation of 4th Plan underway**

Cabinet decision expected next spring
3.1 The Food Recycling Law

- **Establishment**
  The Food Recycling Law was established in May, 2001.

- **Direction**
  The Food Recycling Law focuses mainly on food waste from food related businesses. It aims to
  - reduce food waste generation, and
  - promote recycling of food waste into feedings or fertilizers.

- **Role of the National Government**
  - Formulation of Basic Plan
  - Development of requirements to food related businesses
  - Advice, Recommendations and Orders
  - Awareness Raising

- **Responsibility of Food Related Businesses**
  - Reduction of FW generation / Recycling of FW
  - Periodical Report
3.2 Challenges at business sectors based on Food Recycling Act

- Goals Setting & Trend of Recycling Rate

![Graph showing recycling rates of different sectors over time.](image)

- Institutional and technological support for food waste recycling

(2020 March (2015 amendment))

(MOEj report)
3.3 Recycling Loop System

**Recycling Loop System**

Recycling projects can be approved by the national government when

- food waste is planned to be collected, transported and recycled in an appropriate manner, and
- agricultural products raised using feeds or fertilizers made from food waste are certainly consumed.

As of April 2019, 53 loops had been approved.

**Additional Reduction of Administrative**

In addition to reduction of administrative proceeding for recycling businesses registration system, when the recycling project is approved by the national government, the permission of the municipality where the food waste generator exists is not required as well.
3.3 Recycling Loop System

- Example – feed for pigs
  - Pork (Ham) (Own Brand)
  - Food Residues from Department Store
  - Feed for Pigs

- Example – fertilizer use
  - Vegetables
  - Food Residues from Supermarket
  - Fertilizer
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4.1 Good practice to reduce FW before wasted

- **Salvage party (household)**
  Participants bring together unused food items at households
  Food Salvage inc. can send professional chef
  Share food items / cook together
  Share the recipe with colleagues or neighbors

- **Eat-up movements (3010 campaign)**
  The campaign asks organizers to encourage participants to
  1) Sit down 30 minuets in the beginning,
  2) 10 minutes in the end of parties and banquets
  Provide stickers to restaurants/hotels

- **Food bank**

- **Other initiatives**
4.2 Other good practice to reduce FW before wasted

Expiring period:
One months -> four months

Display of best-before date:
day -> month
4.3 Review of business practices to reduce FW before wasted

- Review of business practices
  The 1/3 Rule (EX: 180 days before expiring)

- 35 companies’ experiment of extending delivery & sales deadlines
4.4 Composting at household to reduce waste

- **Household composting** (support through subsidies)
  - **Kiero composter**
  - **Keeru composter**
  - **Takakura composter**

- **Key challenge:**
  - Supporting and assisting system
  - How to sustain and scaling up
4.5 Regional vitalization based on FW recycling by linking producer and consumer at rural community

- Food waste/kitchen garbage separating/collecting at community as the “local loop”

Ooki, Fukuoka
- Popu: 14,500
- Household: 4700
- Area: 18.43 km²

Basket-to-basket collecting system

Social platform to support the “loop”
Main Conclusion about FW in Japan

- Japan’s Food Waste Recycling Law and related initiatives have made progress in encouraging recycling and waste minimization.
- However it mostly focus on food industries and further efforts to systematically reduce and recycle food wastes are urgently needed across all stages of the food supply chain, especially downstream.
- Social platform of food waste segregation/collection system based on the public-participation, performed as part of activities aimed at revitalizing a community is effective to reduce the domestic food waste generation.
- The encouragement of “social” responses to connect producers and consumers by “loop” help to promote the 3Rs of food waste.
- There are a few good practices to reduce food waste by the consumer side in the urban area. How to sustain and scale up is yet a challenge.
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Focusing on “Policy Design and Evaluation to Ensure Sustainable Consumption and Production Patterns in Asian Region”

Starting from June 2016 for 3-5 years.

4 themes related to SCP in the context of Asia.

Led by University of Tokyo (Theme 1), NIES (Theme 2), IGES (Theme 3), and Keio University (Theme 4) (with 11 sub-themes)

- Theme 1 approach: Engineering. Strengthening Relations between Consumption and Production towards Sustainability

- Theme 2 approach: Sociology. Focusing on lifestyle and stakeholders engagement.

- Theme 3 approach: Policy and Economics. Focusing on policy evaluation, modeling and sufficiency approach

- Theme 4 approach: Governance and SDGs. Focusing on SDGs implementation in the context of SCP
References


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