Sustainable Consumption – UNECE and the
Food Loss Challenge

Presentation by Liliana Annovazzi-Jakab, Head, Agricultural Standards Unit
United Nations Economic Commission for Europe
Sustainable Consumption – UNECE and the Food Loss Challenge

Liliana Annovazzi-Jakab
Head, Agricultural Standards Unit
United Nations Economic Commission for Europe
UNECE

June 2019
The FOOD LOSS/WASTE AND SUSTAINABLE CONSUMPTION CHALLENGE unfolded:

1. Sustainable consumption = sustainable consumer (behavior)? State of play? Where are we right now? where can we go? How? And what can speed up things?

2. Who are the actual consumers in this particular context:
   - End – consumer?
   - Buyers, trader, sellers in general?
THE FOOD LOSS/WASTE CHALLENGE IN NUMBERS

1.6 Billion Tons
Food lost and wasted
Source: FAO, BCG Flow model

$1.2 Trillion
Revenue loss
Source: FAO, BCG Flow model

870 Million
Hunger
Source: UN FAO, BCG Flow model

8% Greenhouse gas emission
(wasted food)
Source: UN FAO, World resources institute

2.1 Billion tons

1.5 Trillion
Per year, consumers in rich countries waste almost as much food (222 million t) as the entire net food production of sub-Saharan Africa (230 million t).

Per capita waste per year by consumer: 95-115 kg Europe/ North America, 6-11 kg Sub-Saharan Africa, South and South-East Asia.
20% MEAT FOOD LOSSES

Of the 263 million tonnes of meat produced globally, over 20% is lost or wasted.

This is equivalent to 75 million cows.

45% FRUIT & VEGETABLES FOOD LOSSES

Along with roots and tubers, fruit and vegetables have the highest wastage rates of any food products; almost half of all the fruit and vegetables produced are wasted.

3.7 trillion apples

30% CEREALS FOOD LOSSES

In industrialized countries, consumers throw away 286 million tonnes of cereal products.

763 billion boxes of pasta
The amount of food waste in China alone could feed 100 million people.

Source: Food Navigator Asia, The Economist Business Intelligence Unit
The food loss challenge and its many faces
Medium- and high-income countries food lost/wasted mainly at later stages of supply chain. Consumers waste more. In developing countries, losses occur mainly at post-harvest, production, trade levels. Consumers plays a lesser part.

Source: FAO
What is sustainable food consumption?

Result of deliberate or unconscious actions of consumers focused on purchasing sustainable products to balance consumption and reduce waste. Thereby:

- they affect the environment as little as possible by their actions
- they contribute to the local economy and social responsibility by their choices.

BUT HOW DO WE GET THERE?

Excepted from IGI Global and MSC
Mostly a mixture of strategies, action plans, tax incentives, sometimes legislation, encouraging donations, control at various levels, sanctions, collaborations (NGOs), awareness raising etc.

The example of South Korea – focus consumers:
130 kg of food wasted per person each year

Government has taken radical action:
- In 2013, prohibition to discard food residues into landfills and waterways
- Households pay for recycling according to how much they throw away
- Use of country’s technology: automated bins equipped with scales and Radio Frequency Identification (RFID)
In general: through the development of international agricultural quality standards and recommendations for fresh fruit and vegetables, dry and dried produce, meat and seed potatoes for domestic and international trade,

• To reduce transaction costs and risks by providing a standardized description of the product to be traded.
• To keep quality thought the trade chain to the end-consumer
• To protect consumer interests.

Keeping quality from farm to fork is an efficient tool to ensure sustainable consumption, prevent food loss and reduce the economic, climate and resource impact of food wasted. and improves the food redistribution and security.

WHY?
Fruit and vegetable loose their quality attributes shortly after harvest until consumption. The loss in nutritional values happens long before external appearance is affected (discoloration, decrease of firmness etc.) or decay appears.
How does UNECE cover sustainable food consumption issues

Production level: Excellent quality

In the shop: Quality and nutritious value degraded
Consumers don’t buy the fruit
Result = Food waste
How does UNECE cover sustainable food consumption issues - UNECE’s Food Loss work

Specific focus: UNECE and the food loss challenge

- Quality matters but constant **review of quality standards** for agricultural produce
- Focus on **losses in the trade process** before it reaches the consumer and even retail
- Designed an **online blockchain-supported marketplace**
- Developed a simple **food recording methodology**
- Development of a **Code of Good Practice** on handling fruit and vegetables along the supply chain
- **Comprehensive resource page** on the food loss and waste challenge

Web page: UNECE and the Food Loss Challenge
How does UNECE cover sustainable food consumption issues - UNECE’s Food Loss work

Aim:

- Preventing, reducing and keeping as much food as possible in the human consumption chain
- Repurposing and redistributing food to feed all – Recovery and Redistribution (R and R)
- Help reach SDG 12.3
UNECE’s Smart Solution to Food Loss

**Food loss management system** to help trace and quantify the food lost and to distribute the currently “invisible” and unavailable food in alternative food chains.

- In this context, “invisible food” is food removed from the main supply chains for various reasons at different stages.

**The primary objective:** Quantify, account for systematucally, makes available and repurposes to alternative buyers, currently “invisible” produce and generates data to prevent losses and increase sustainable food consumption
THE UNECE FOOD LOSS MANAGEMENT SYSTEM: B2B and B2G

Creating alternative supply chains for food currently lost or wasted along the entire supply chain

SELLERS: Producers, Farmers, Traders, Packers, Importers

BUYERS: traders, packers, hospitality sector, wholesalers, institutional buyers, charity, government
OUR UNECE SOLUTION

An **Online Marketplace for Food Lost or otherwise Wasted** for the food supplies that currently go to waste and are removed from the human food production and consumption chain to that brings all interested parties together. Interested parties are producers, traders, packers and logistic companies, hospitality sector, wholesalers, institutional buyers, charity and government agencies.

A traceability solution through **Blockchain** technology that enables tracking product journey and ensures quality certification validity.
Component 1: The marketplace B2B or B2G – blockchain supported

Why invisible/surplus?
- Not matching visual standards.
- Order cancellation
- Time limitations.
- Excess production

Online Marketplace
Online marketplace that provides opportunity to participants (businesses and governments) of supply chain to sell their Invisible products directly to end consumers.

Farmers
The production level of fruits and vegetables

Distributors
Farmer’s direct point of contact for prospective buyers for the fresh produce.

Food Processors
Companies that further process the fresh produce.

Packing Stations
Fresh produce packed for various business needs

Wholesalers, Importer
Fresh produce packed for various business needs

Buyers
- Supermarkets
- Restaurants, caterers, hotels
- Processors, By-product Manufacturer
- Government procurement
- Other businesses including textile industry, vegan market segments
Component 2: Food loss data generation - the benefits for governments

GOVERNMENTS
To plan interventions, policies to prevent and reduce losses and waste, limit environmental impact, ensure food security and improved extension services. SDG implementations

Food lost = Invisible/Surplus Food

Systematic measurements and Data generation in Component 2

Farmers, production level
Distributors, buyers
Packing stations or Processors
Logistics hot points (domestic and export)
Wholesalers at destination, importers, domestic

SDG implementations
ONLINE MARKETPLACE

The Steps and phases

• **Scalable and adaptable** model for all countries.
• **Local use first** – cross-border use later
• **Plug-ins for existing systems and methodologies** (e.g. quantification methodologies, traceability or certification).
• At a later stage: possibly, Plug-ins for consumer interface
• **Pilots in selected countries (rural areas and cities)**
• **Strong partners** at domestic level (governments, NGOs. Private sector) to ensure long-term ownership and maintenance
Joining the sustainable consumption challenge

• Government (regulators) to support, incentivize and subsidize key food loss and waste reduction possibilities

• International bodies for collaboration on international food loss and waste opportunities – also cross-border - (SDG 17) partnerships between stakeholders (governments, international/ regional organizations, business, academia, civil society as the driving force

• Companies to take responsibilities and use the (also business) opportunities to reduce food loss and waste

• Consumers need to adapt practices to avoid food waste
Thank you!

Liliana Annovazzi-Jakab  
Head  
Agricultural Standards Unit  
United Nations Economic Commission for Europe  
UNECE  
liliana.annovazzi-jakab@un.org