
Intergovernmental Group of Experts on Consumer Law and Policy

4th SESSION

8-9 July 2019

Room XVII, Palais des Nations, Geneva

**Sustainable Consumption – UNECE and the
Food Loss Challenge**

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Sustainable Consumption – UNECE and the Food Loss Challenge

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June 2019





The **FOOD LOSS/WASTE AND SUSTAINABLE CONSUMPTION CHALLENGE** unfolded:

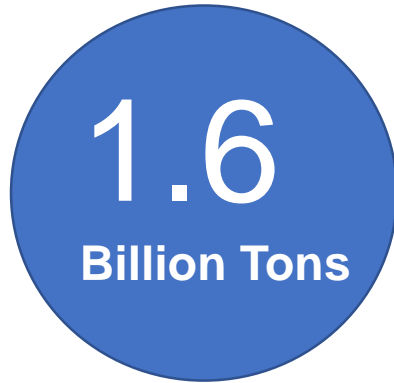
1. Sustainable consumption = sustainable consumer (behavior)?
State of play? Where are we right now? where can we go? How?
And what can speed up things?

2. Who are the actual consumers in this particular context:

- End –consumer?
- Buyers, trader, sellers in general?



THE FOOD LOSS/WASTE CHALLENGE IN NUMBERS



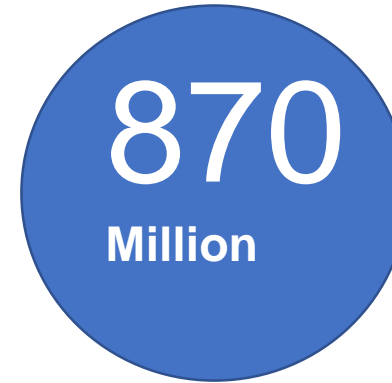
Food lost and wasted

Source: FAO, BCG Flow model



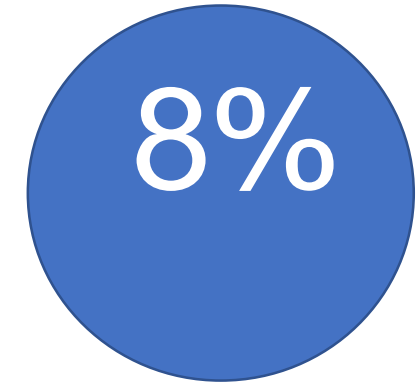
Revenue loss

Source: FAO, BCG Flow model



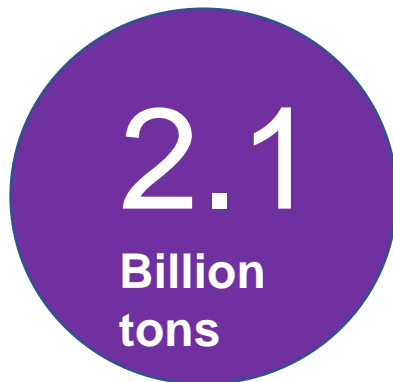
Hunger

Source: UN FAO, BCG Flow model



**Greenhouse gas emission
(wasted food)**

Source: UN FAO, World resources institute



THE FOOD LOSS/WASTE CHALLENGE IN NUMBERS – THE END CONSUMER



Rich countries:
222
million tons wasted
per year

sub-Saharan Africa:
230
million tons net
food production

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).

Europe and North America,
95-115 kg per year per
capita waste

Sub-Saharan Africa:
6-11 kg
per year per
cap waste

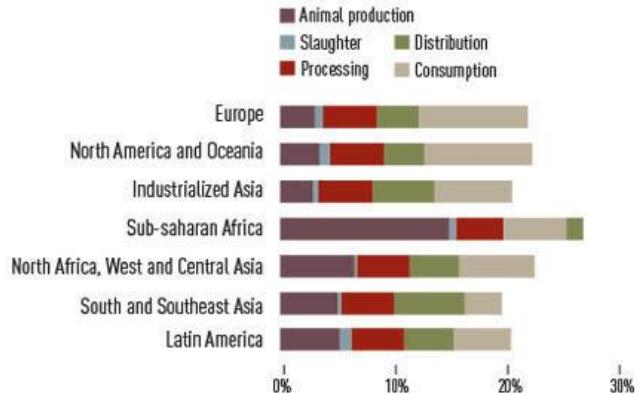
Per capita waste per year by consumer:
95-115 kg Europe/ North America,
6-11 kg Sub-Saharan Africa, South and South-East Asia.



20% MEAT FOOD LOSSES

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

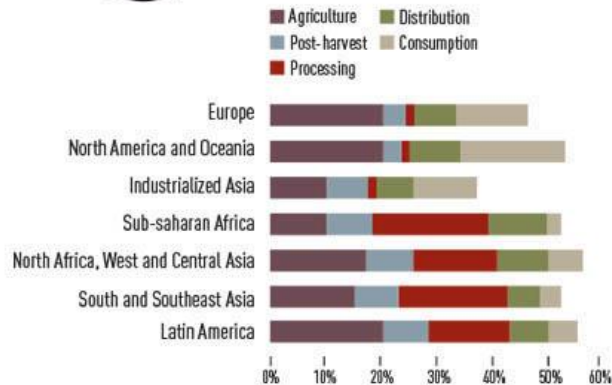
 This is equivalent to 75 million cows.



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.

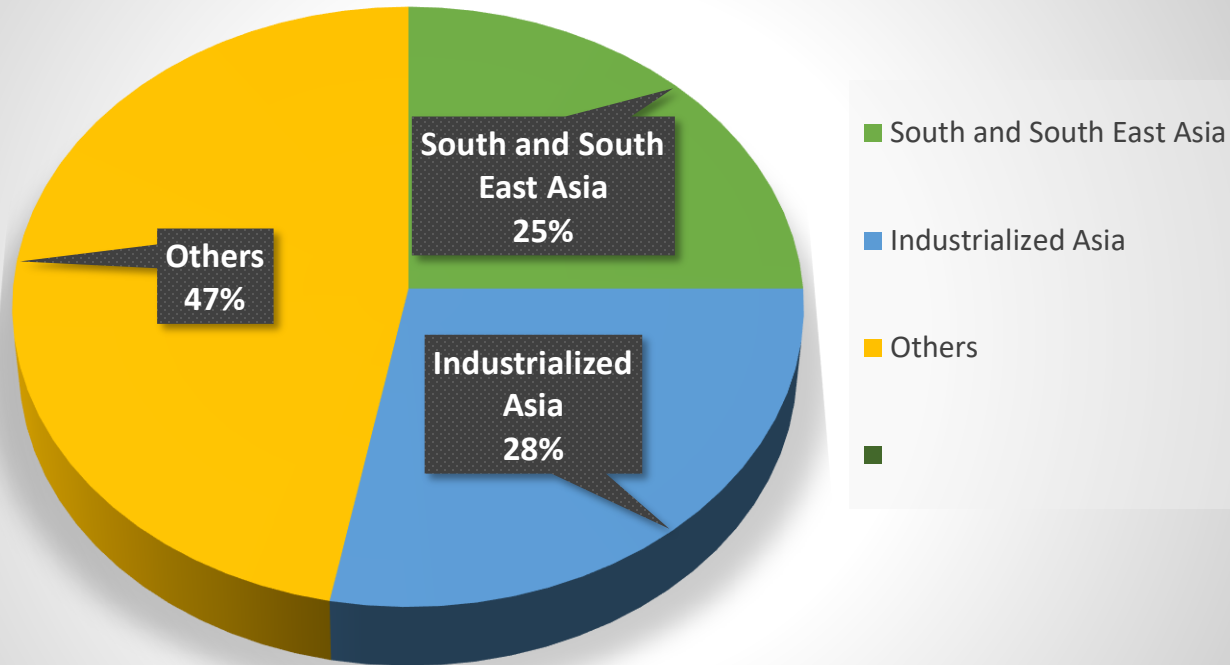
 763 billion boxes of pasta





Example - FOOD LOSS/WASTE IN ASIA

Global Food Waste



INDONESIA FOOD LOSS AND WASTE FACTS



FOOD WASTE IN CHINA

The amount of food waste in China alone could feed **100 million people**

The food loss challenge and its many faces

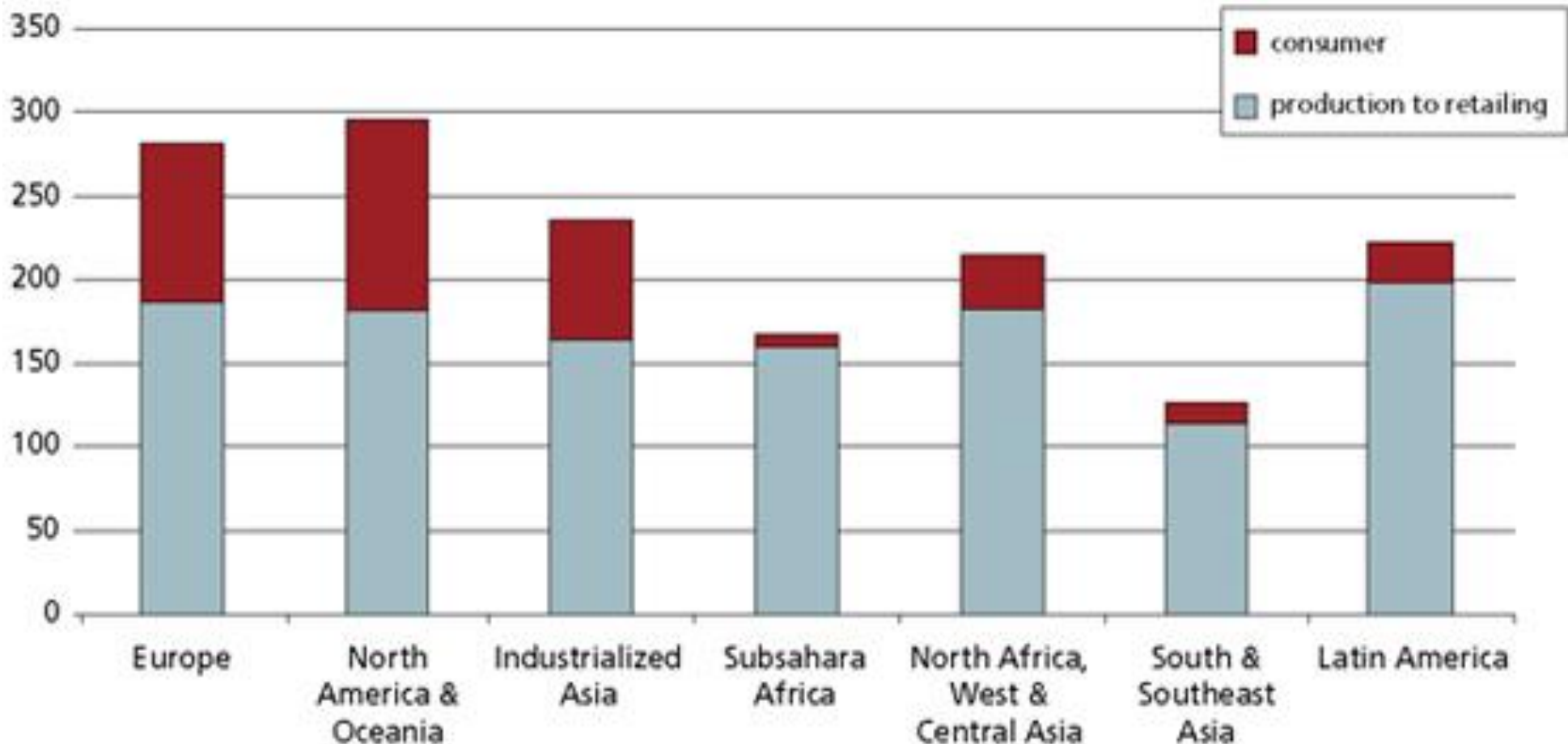


FOOD LOST AND WASTED – THE FULL PICTURE – THE BUYERS, SELLERS OF THE CHAIN



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.

Per capita food losses and waste (kg/year)

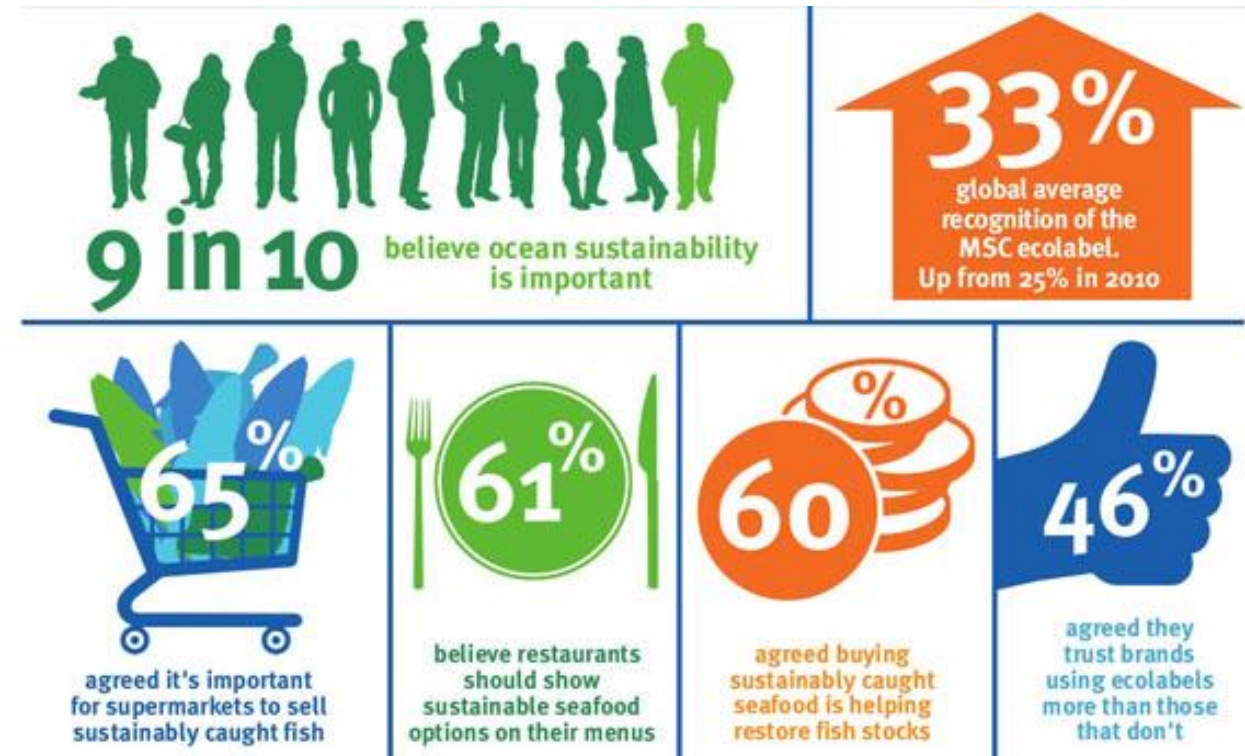




What is sustainable food consumption?

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?





ACTION AT GOVERNMENT LEVEL – INCENTIVES AND DISINCENTIVES

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)



How does UNECE cover sustainable food consumption issues

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.

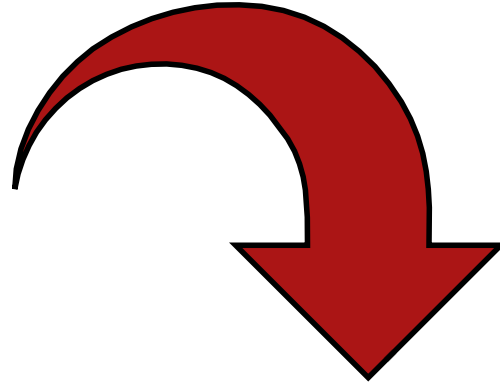
WHY?

Fruit and vegetable lose 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



**REDEFINING THE FOOD LOSS
CHALLENGE FOR SUSTAINABLE IMPACT:
PREVENT | REUSE | REPURPOSE | REDISTRIBUTE**

Web page: **UNECE and the Food Loss Challenge**
<http://www.unece.org/trade/agr/unece-foodlosschallenge.html>

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**



**REDEFINING THE FOOD LOSS
CHALLENGE FOR SUSTAINABLE IMPACT:
PREVENT | REUSE | REPURPOSE | REDISTRIBUTE**



UNECE - Managing the food loss challenge

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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 systematically, makes available and repurposes to alternative buyers, currently “invisible” produce and generates data to prevent losses and increase sustainable food consumption



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

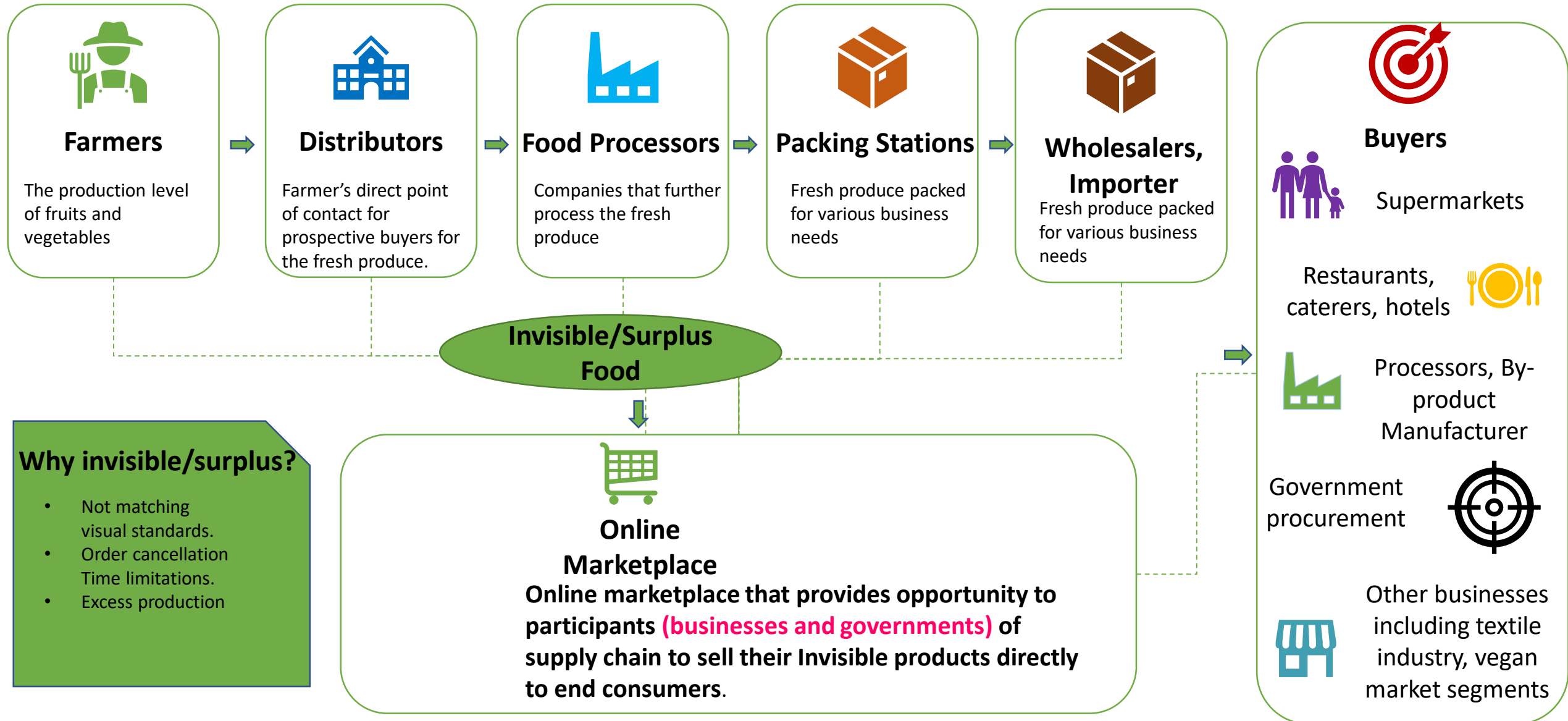


An **Online Marketplace for Food Lost or otherwise Wasted** for the food supplies that currently go to waste and are removed from the human food **production and consumption chain** to that brings all interested parties together. Interested parties are producers, traders, packers and logistic companies,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

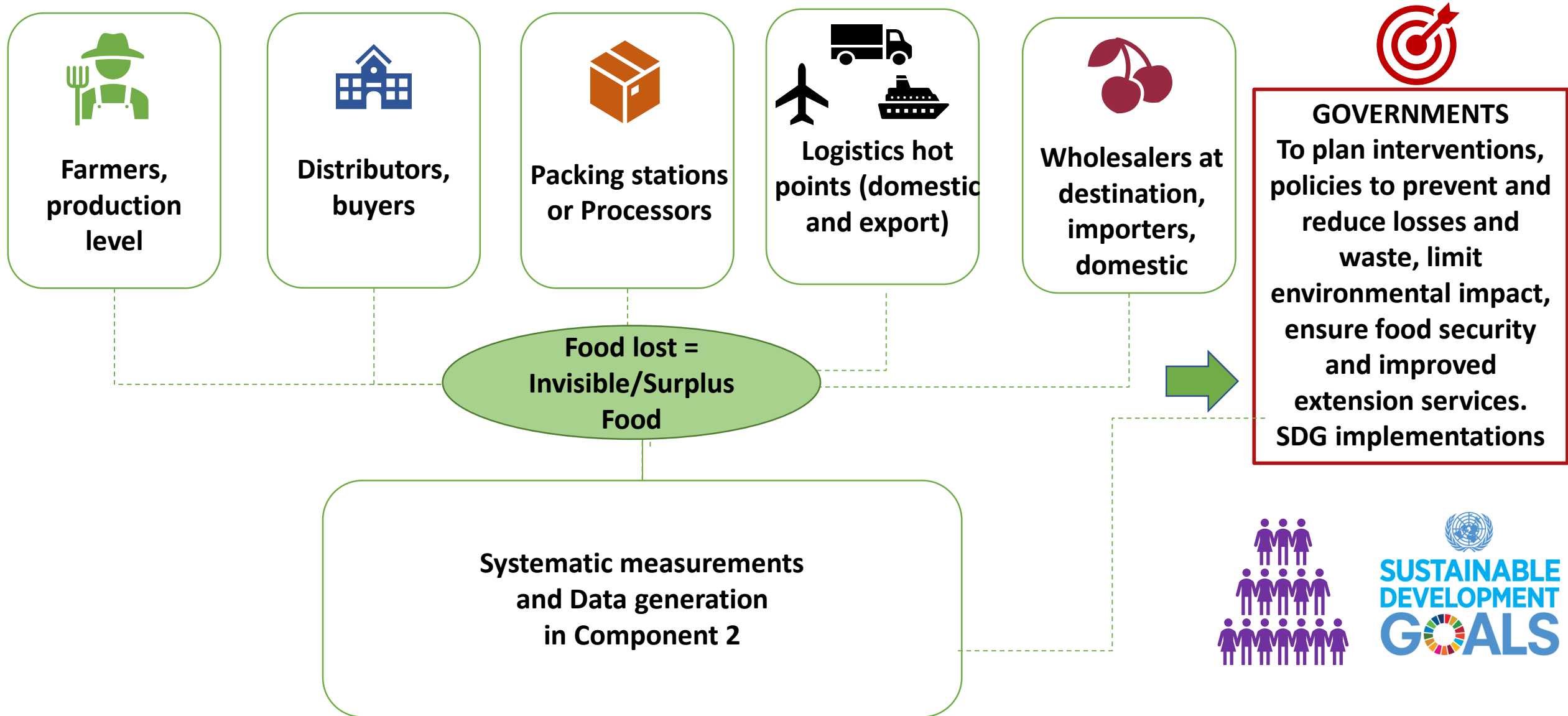


A traceability solution through **Blockchain** technology that enables tracking product journey and ensures quality certification validity

Component 1: The marketplace B2B or B2G –blockchain supported



Component 2: Food loss data generation - the benefits for governments



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



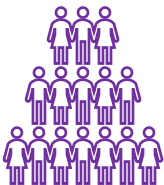
- **Government (regulators) to support, incentivize and subsidize key food loss and waste reduction possibilities**



- **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!

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