

UNECE Working Party on Agricultural Quality Standards (WP.7)

Seventy-eighth session

SEMINAR ON SUSTAINABLE FOOD SYSTEMS AND RESOURCE EFFICIENCY

ASPECT: FOOD LOSS AND WASTE PREVENTION AND REDUCTION

STATE OF PLAY IN SERBIA



**Ministry of Agriculture, Forestry and Water
Management Republic of Serbia**

**Working group for the improvement of the legislative
framework for redistribution of surplus food**

FOOD LOSS AND WASTE

IS A GLOBAL PROBLEM OF ENORMOUS ECONOMIC, ENVIRONMENTAL AND SOCIETAL SIGNIFICANCE

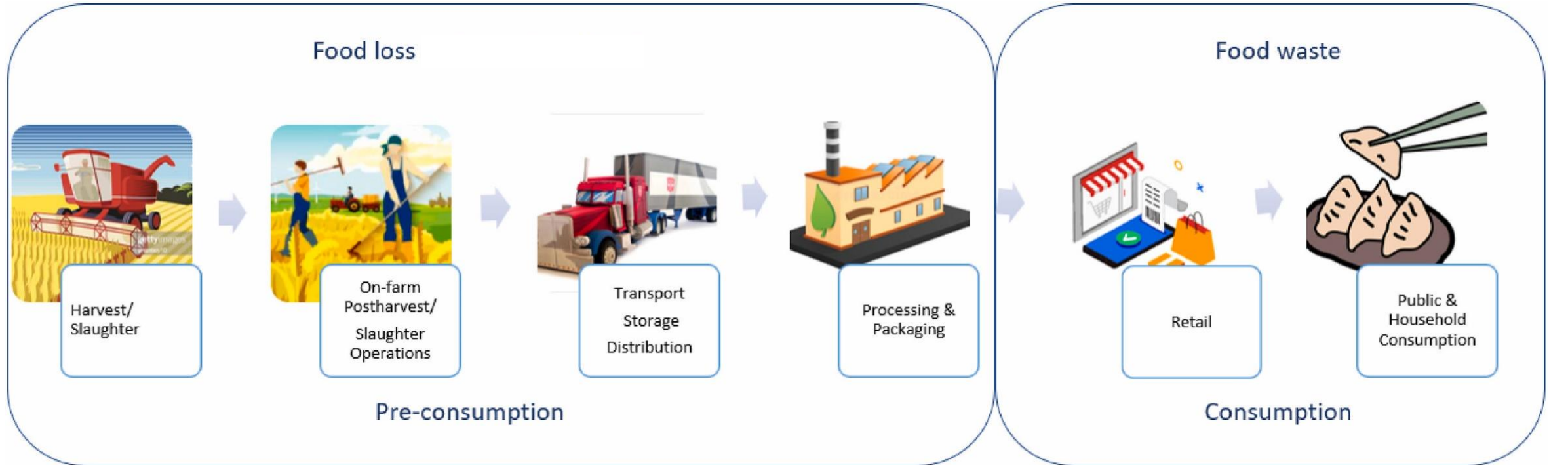
„But what we have to recognize now is:

- That we are reaching the ecological limits that our planet can bear,
- And when we chop down forests as we are every day to grow more and more food,
- When we extract water from depleting water reserves,
- When we emit fossil fuel emissions in the quest to grow more and more food,
- And then we will throw away so much of it,
- WE HAVE TO THINK ABOUT WHAT WE CAN START SAVING.**“

Tristram Stewart
Food Waste campaigner



FOOD LOSS vs FOOD WASTE



typically (though not exclusively)

Food loss

Decrease in quantity/quality of food as a result of decisions/actions by food suppliers in the chain, excluding retailers, food service providers, and consumers.

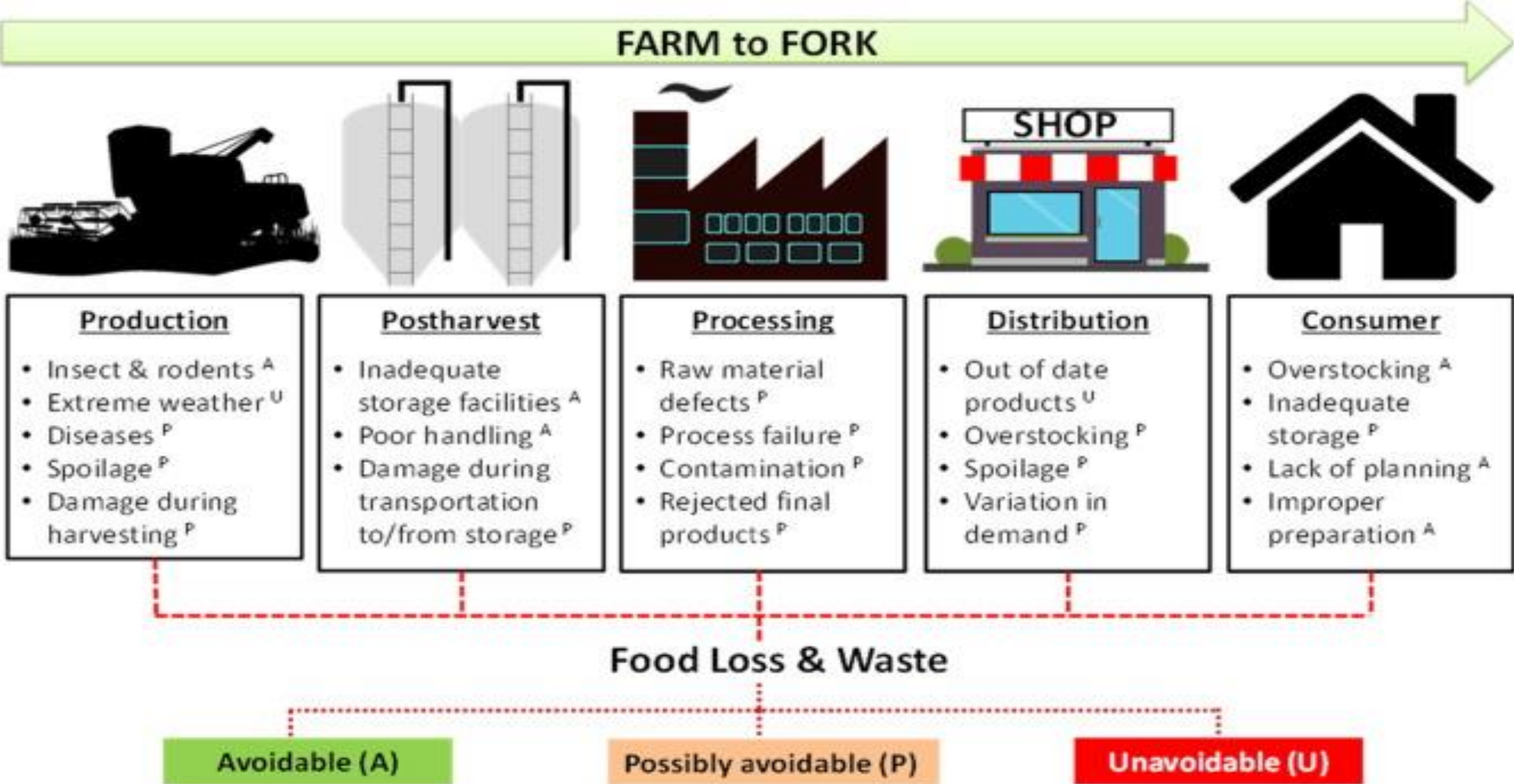
vs

Food waste

Decrease in quantity/quality of food as a result of decisions/actions by retailers, food service providers, and consumers.

(State of Food and Agriculture [SOFA], 2019)

REASONS LEADING TO FOOD LOSSES AND WASTE



FOOD LOSS AND WASTE REDUCTION FOR ACHIEVING SDGS

TARGET 12-3

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



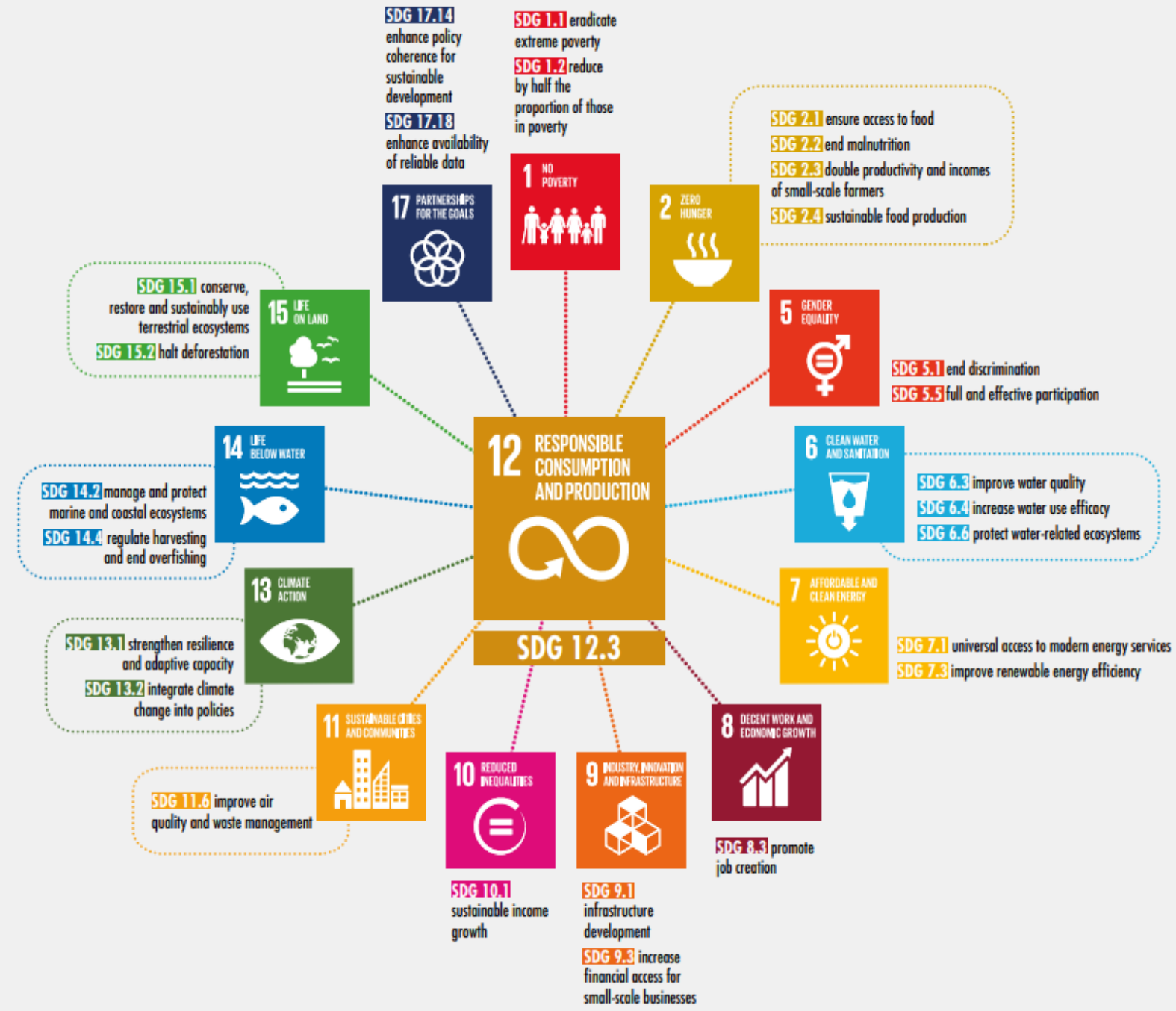
50%

HALVE GLOBAL PER CAPITA FOOD WASTE

Indicator 12.3.1 - Global Food Loss and Waste

Sub-Indicator 12.3.1.a - Food Loss Index

Sub-Indicator 12.3.1.b - Food Waste Index



HOW MUCH FOOD WASTE IS GENERATED IN SERBIA?

ESTIMATED



NALED and Eso Tron
Ltd. June 2019

- ~ 247,000 tons annually
- 30 – 40 kg per capita annually
- (~ 900,000 tons annually)



Environment
Improvement Center,
2019

- 246,683 tons by households
- 35 kg per capita in household sector
- ~ 770,000 tons annually
- 90 % of that waste ends up in landfills



WWF

- 250,000 tons annually



The UN Environmental
Program (UNEP), 2021

- ~ 726,000 tons annually
- ~ 2 million kg per day
- ~ 6 kg per capita – HORECA sector



Serbian Environmental
Protection Agency (SEPA),
2022

- 3,18 million tons of municipal waste annually
- 45,6 % biodegradable waste

EXCEPT,



BELGRADE

- ❑ 108.1 kg per resident annually
- ❑ 27.7 kg edible parts
- ❑ 80.4 kg inedible parts
- ❑ 170,000 tons annually



PROJECT: Build Back Better: Using Green and Digital Technologies to Reduce Food Waste at Consumer Level

Focus area: Business Models and Markets, Climate Planning and Policy

Beneficiary Country / Region: Colombia, Qatar, **Serbia**, Thailand, Uganda (capitals)

Duration: March 2021 - October 2022

Partners: **UNEP, International Resource Panel, Global Opportunities for Sustainable Development Goals, One Planet Network, Sustainable Infrastructure Partnership, Climate Technology Centre and Network**

Measuring the amount and composition of food waste from households in Belgrade SUMMARY

Why and how we create food waste Analysis of research into the habits and attitudes of the citizens of Belgrade

Review of the state of needs and participants in the field of food surplus and food waste management in Belgrade



Project report



Featured



PROJECT: Toward better food waste management in the Republic of Serbia

Focus area: Harmonisation of Policies and Regulations, Awareness raising and education, Pilot collection of food waste

Duration: December 2018 - Jun 2021

Partners: German organization for international cooperation - GIZ

National Alliance for Local Economic Development - NALED

"Eso Tron"

HEMISKA
CRKVA
DEUTSCHE ZUSAMMENARBEIT

giz

NALED

ESOTRON
EKOLOGIJA BUDUĆNOSTI

**ANALIZA SISTEMA UPRAVLJANJA
OTPADOM OD HRANE
U REPUBLICI SRBIJI**

**ANALYSIS of the FOOD WASTE
MANAGEMENT SYSTEM IN THE
REPUBLIC OF SERBIA**

Beograd, jun 2019.

german
cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by:
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

ESOTRON
EKOLOGIJA BUDUĆNOSTI

VODIČ
ZA PRAVILNO UPRAVLJANJE
OTPADOM OD HRANE
GUIDE
FOR PROPER FOOD
WASTE MANAGEMENT

NALED

develoPPP.de

german
cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by:
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

ESOTRON
EKOLOGIJA BUDUĆNOSTI

**UPRAVLJANJE
OTPADOM OD HRANE:**
Trenutno stanje
i predlozi za unapređenje

FOOD WASTE MANAGEMENT:
Current status and suggestions
for improvement

NALED

develoPPP.de



Assessment of the impact of circular economy implementation
Food waste in the HORECA sector

PROJECT: Waste management in the context of climate change (The German Climate Technology Initiative - DKTI)

Focus area: The impact assessment for three sectors: plastic packaging, electrical and electronic equipment and HORECA.

Region / Municipalities: 3 Region / 17 Municipalities

Duration: January 2018 - Jun 2021

Partners:

- German organization for international cooperation – GIZ
- Ministry of Environmental Protection
- 17 municipalities

Center for Advanced Economic Studies estimated that the Serbian HORECA sector, annually:

- **BUYS** ~ 123.000 tons fresh foods
- **GENERATE** totaly **40.000 t** of food waste (~ 6 kg per capita)
 - ✓ 25.000 tons kitchen waste and
 - ✓ 15.000 tons waste from the plate

PROJECT: Challenge for bio-waste management

Duration: 2021 - 2022

Partners: The United Nations Development Program (UNDP), the Serbian Ministry of Environmental Protection, The Swedish Agency for International Development and Cooperation (SIDA)

Awarded Innovations for better management of food and green waste



- Pilot project of separation of communal waste in households (PUK „Higijena Pancevo“)
- Food waste and green waste composting system (PUK „Topola“)
- The first Educational Center for municipal waste management in Serbia at the landfill itself (PUK „Duboko“, Uzice)
- Green waste from Vršac vineyards for the production of bio-pellets used as fuel for the production of dairy products (Dairy „Petrov“)
- A patent for a container that can be used to make soaps and candles from edible waste oil at home (Civil society organization "Bioidea" and Institute of General and Physical Chemistry, Belgrade)
- Pits from fruit processing for the production of edible and cosmetic oil and flour that can be used as an animal feed supplement ("Agrose", Mladenovac)
- Mobile application (UseAllFood) that informs users about the state of food in the refrigerator and thus helps them waste less food (HyperEther, Novi Sad)



ROADMAP

for circular economy in Serbia



PROJECT: Circular Economy for Sustainable Development in Serbia

Duration: 2018 - 2020

Partners: The United Nations Development Program (UNDP), the Serbian Ministry of Environmental Protection

To initiate reduction of food waste, a series of workshops were organized in partnership with the Ministry of Environmental Protection, the Chamber of Commerce, private Companies, Food Bank, Restaurant Associations and Social Enterprises, showcasing innovative solutions for reduction of food waste and options for its use as a resource.

Otvoreni dan o odgovornom upravljanju viškovima hrane



Organizacija "Foodscale hub" poziva zainteresovane na Otvoreni dan na organskoj farmi Letić u utorak, 19. aprila. Tema ovog događaja biće odgovorno upravljanje viškovima hrane, sa posebnim naglaskom na viškove koji nastaju u proizvodnji i preradi organske hrane. Organizacija "Foodscale Hub" je razvila aplikaciju "FoodSHare" koja omogućava distribuciju viškova hrane humanitarnim organizacijama i društvenim zajednicama. Aplikacija je razvijena sa idejom da poveže sve relevantne aktere iz domena donacija hrane i implementira kao besplatno rešenje za sve korisnike. "FoodSHare" broji preko 80 registrovanih kompanija u Srbiji, a razvijena je u okviru medunarodnog projekta "Ploutos". Više informacija [ovde](#). (agronews)

Open day on responsible management of food surpluses that arise in the production and processing of organic food

Workshop organized by the Promotion of Science Center and the Institute for Food Technologies



NALED, GIZ and Esotron collected 1,300 tons of food waste

NALED, GIZ i Esotron prikupili 1.300 tona otpada od hrane



Odziv velikih ugostitelja "Izazovu prikupljanja 1.000 tona otpada od hrane" premašio je cilj, a sakupljeno je gotovo 1.300 tona, saopšteno je na promociji projekta "Ka boljem upravljanju otpadom od hrane u Republici Srbiji". Direktor za odživi razvoj u NALED-u Slobodan Krstović naglasio je značaj akcije za očuvanje životne sredine, navodi se u saopštenju. Rekao je da se u Srbiji godišnje generiše oko dva miliona tona organskog otpada, što predstavlja veliko opterećenje za deponije, te naveo da se na njima zabeleži više od 300 požara, koji nanose veliku štetu životnoj sredini. U saopštenju je navedeno da je Srbija po količini organskog otpada koji nastaje u domaćinstvima iznad svetskog proseka. (Beta)



Campaign "NO food waste" on the occasion of World Biodiversity Day, May 2021



How to reduce food waste in households and who is responsible for the fact that food rots in landfills in Serbia

The city of Topola - an example of good practice – Project of separation of food waste from other waste (2020-2021)



IMPLEMENTATION PERIOD
2021 – 2024

ACCELERATING THE TRANSITION TOWARDS A CIRCULAR ECONOMY IN THE UNECE REGION



BENEFICIARY COUNTRIES
BELARUS, GEORGIA, KAZAKHSTAN,
MOLDOVA, SERBIA, TAJIKISTAN



STEP 1 - Policy Research and Analysis

A CONCEPTUAL APPROACH BASED ON EXISTING MANDATES AND DELIVERABLES

PRIORITY AREAS

SUSTAINABLE
PROCUREMENT

WASTE
MANAGEMENT

TRACEABILITY OF
VALUE CHAINS

EFFICIENCY OF TRADE
AND LOGISTICS CHAINS

STANDARDS AND
REGULATORY
FRAMEWORKS

3 Means of Implementation
for the Agenda 2030

TRADE

INNOVATION

FINANCE (E.G. PPPS)

3 Sector Examples

AGRICULTURE

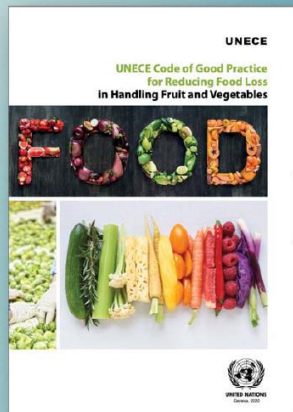
AGRI-FOOD

GARMENTS AND FOOTWEAR

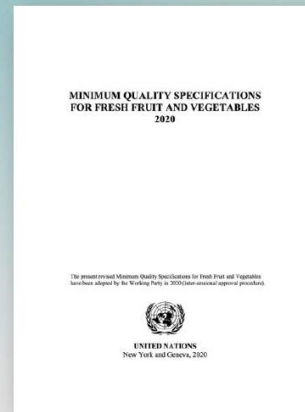


STEP 2 - Development of standards & normative tools

Traceability of the Agri-Food Supply Chains
to reduce Food Loss and Waste



<https://unece.org/trade/docu-ments/2021/05/informal-docu-ments/code-good-practice-re-duc-ing-food-loss-and-ensurin-5>



STEP 3 - Sharing of experience

Today - Food Loss and Waste



THE PROBLEM

88 MLN TONNES OF FOOD
WASTE GENERATED
ANNUALLY (€143 BILLION)

SET TO RISE TO AROUND
126 MLN TONNES BY 2020



THE SOLUTION

DIGITAL AGRI TRADE AND
DATA COLLECTION FOR
"INVISIBLE FOOD"

ALTERNATIVE FLEXIBLE,
FAST REACTING TRADE
SUPPLY CHAINS FOR FOOD
CURRENTLY LOST OR WASTED
ALONG THE ENTIRE SUPPLY
CHAIN



THE PRODUCT

UNECE'S SMART FOOD LOSS
MANAGEMENT SYSTEM

SYSTEMATIC TRACING OF
FOOD LOSS

DATA GENERATION

ONLINE BLOCKCHAIN-
SUPPORTED MARKETPLACE



FeedUP@UN



THE REPUBLIC OF SERBIA

Circular Economy in the Agri-Food Sector

Objectives of the First National Policy Dialogue in Serbia

*1st National Policy Dialogue, 5 July 2022
Metropol Palace Hotel, Nikola Tesla Ballroom A*

- **Strengthen the knowledge** of government officials and other participating stakeholders of the circular economy definition and its core principles. Raise awareness about the successful circular economy practices, positive economic, environmental, and social implications, as well as requirements for the circular economy transition. Address the applicability of these issues in the national context of Serbia.
- **Identify relevant stakeholders** in Serbia from circular economy-related ministries, statistical offices, national agencies, research institutes/academia, NGOs, and the private sector.
- **Take stock of the circular economy-related legislation and regulations** that are currently in place in Serbia. This includes action plans, national strategies, national circular economy-related goals, specific laws or policies or other governmental documents.
- **Discuss** the preliminary findings of the national gap analysis developed by the national consultant to identify policy, regulatory and institutional limitations that hold back the circular economy transition in Serbia and how this process can be accelerated by putting in place effective waste management with a focus on agriculture and food waste. Train on how policy recommendations that are derived from the gap analysis can be implemented.

**CIRCULAR STEP
REGIONAL POLICY DIALOGUE**

Accelerating the Circular Economy Transition

18-19 OCTOBER 2023

**REGISTER
NOW**



UNECE



РЕПУБЛИКА СРБИЈА
Министарство
заштите животне средине
REPUBLIC OF SERBIA
Ministry of
Environmental Protection



The Regional Policy Dialogue facilitated the sharing of good practices, experiences and lessons learned in order to close knowledge gaps between advanced and less advanced countries and leaving no one behind.

Topics covered:

- ✓ **Increasing Circularity: The Role of Public Policy**
- ✓ **Strategic Foresight on Circular Economy in the UNECE Region**
- ✓ **Accelerating Circular Economy Through Innovations**
- ✓ **Stimulating Circular Business Models**
- ✓ **Accelerating Circular Economy Through Digital Solutions**
- ✓ **Enabling Circularity: The Role of Traceability**
- ✓ **Accelerating Circular Economy in the Agri-Food Sector**
- ✓ **Mobilizing Financing for Accelerating Circular Economy**



Data-driven sustainable agri-food value chains



Ploutos includes 33 partners, 23 of them being end-users, representing all relevant actors in the food system, ranging from farmers, food industry companies, scientists, advisors to ICT specialists and policymakers



Ploutos will deploy 11 innovative systemic Sustainable Innovation Pilots across 13 countries, covering arable, horticulture (both open fields and greenhouses), perennials and dairy production among others



Ploutos focuses on rebalancing agrifood value chains towards a more environmentally, socially and economically sustainable system. Through our Sustainable Innovation Pilot, Foodscale Hub is in a unique position to help recover safe and nutritious food that would otherwise be wasted.

Vukašin Orsić



FSH Role

Foodscale Hub is the leader of the Sustainable Innovation Pilot (SIP) 9 - Facilitating the transfer of surplus food from farms to socially disadvantaged groups, by aligning logistics and processes. In the scope of Sustainable Innovation Pilot 9, FSH has fine-tuned the FoodSHare platform - a platform that allows daily monitoring of food availability and creates conditions for improving existing systems between user organisations and food donors. Since the platform became fully operational, more than 150 users have registered and more than 105,000 kg of food has been redistributed from donors to recipients.

Coming next in 2023...

As the project enters its final year FSH will focus on reaching all of our KPIs. We will make a special effort to surpass our goals of 160 registered users on the FoodSHare platform and 170,000 kg of food donated through the platform.



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YES, SURE

NO, THANKS

The simple solution for feeding more and wasting less

We streamline the distribution of untouched surplus food to charities and good causes. Use our food redistribution platform to donate or access surplus food, support your local community, reduce food waste and help the environment.

GET INVOLVED



The organization "Foodscale Hub" is developed the "FoodShare" application that enables distribution surplus food to humanitarian organizations and social communities.

IS IT REALLY FOR FREE? ARE THERE NO COSTS? YES!

Trusted by Foodbank Belgrade, Red Cross Vojvodina, and many others.

FoodShare is totally free of charge for the food industry, NGOs, local charities, voluntary organisations and foundations. We are always looking forward to partnering with food businesses and corporations, charities, projects or other organisations that are equally mindful about food waste and hunger. You can get in touch with us to find out more about the best ways to collaborate.

Platform supported by



PLOUTOS has received funding from EU's programme H2020 under GA 101000594.

TANJIR PO TANJIR

Inicijativa za donaciju hrane



Tako dobro. Tako Maxi.

Samo zajedno možemo doprineti širenju kulture dobročinstva i solidarnosti. Upravljanjem viškovima hrane možemo pomoći da ona svakog dana stigne do onih kojima je potrebna. Inicijativa „Tanjir po tanjir“, uz podršku Programa Ujedinjenih nacija za razvoj (UNDP), povezuje Maxi, Mega Maxi, Tempo i Shop&Go prodavnice sa humanitarnim organizacijama Banke hrane Beograd i Banka hrane Vojvodina i na taj način omogućava da sveže voće i povrće stigne do korisnika. Budimo solidarni i razmislite da li već danas možete nekome donirati obrok.



CREATION OF A STIMULATING FRAMEWORK FOR FOOD DONATION 2020 (2018-2019)



KREIRANJE STIMULATIVNOG OKVIRA ZA DONIRANJE HRANE



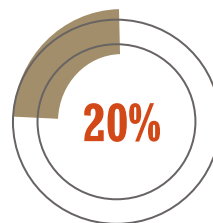
Analiza troškova i koristi
od ukidanja naplate PDV-a na donacije hrane u Srbiji



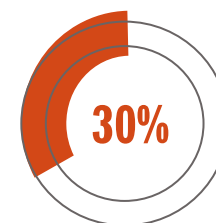
Analysis of costs and benefits from the VAT
exemption on food donations in Serbia

Annual value of donations	~ 1.1 million €
Potential annual value of donations	~ 4.4 million €
VAT charged (on assessed value of donation)	~ 0.5 million €
Annual value withdrawn food from sale	~ 42.4 million €

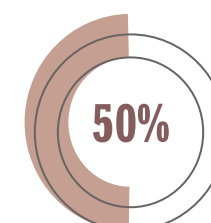
Structure of food donations



Fresh fruits and vegetables



Juices and water

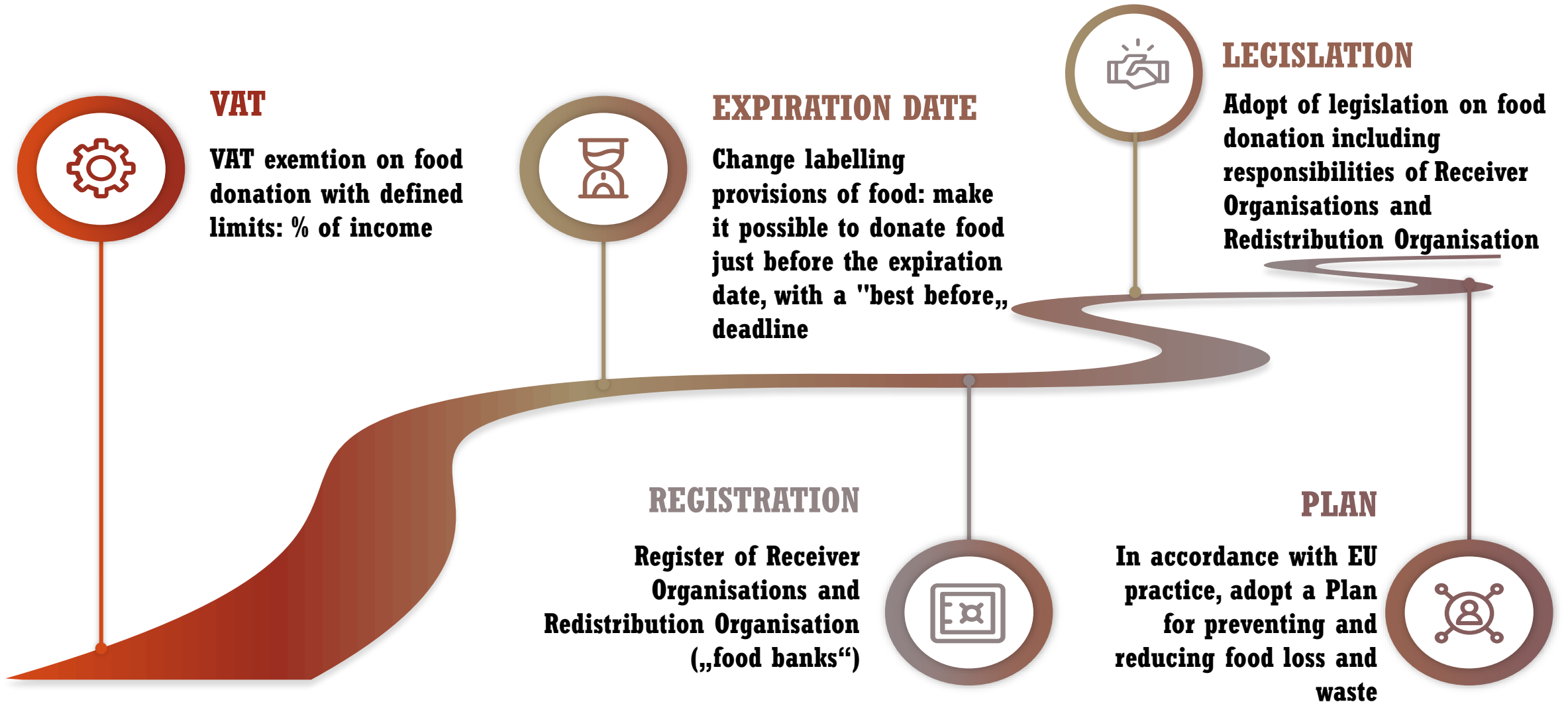


Confectionery products, flour, oil, sugar



10 times more food is destroyed than donated
Net social benefits +1,2 million €
Cost-benefit ratio 1 : 7.5

RECOMMENDATIONS AND SOLUTIONS



Project Title: Policy and Legal Advice Centre (PLAC III)

Activity: Redistribution of surplus food

Partner: EC

MS Expert: Croatia



- The legal gap assessment report (Expiration dates and food donation, Food hygiene and food donation, Tax aspects and food donation, Food waste, Guidelines)
- Best practices assessment in (at least three) Member States (which can implement in Serbia)
- The policy proposal with legal, institutional and/or policy steps/measures/options identified to fully implement the Union acquis
- Workshop - December 2023

THERE IS WORK FOR EVERYONE



Some of the pressing problems

- Lack of adequate data on food loss and waste
- Insufficient equipment of utility companies
- Low awareness of the consequences of rotting food in landfills
- Lack of coordination and collaboration among the various public (governmental and local) and private stakeholders working on food loss and waste
- Lack of institutional and regulatory framework (especially in preventing and reducing food loss and waste)

THERE IS WORK FOR EVERYONE

A framework of action for food loss and waste reduction

- ✓ **Policy, regulation and institutional capacity**
- ✓ **Measurement, data and analysis**
- ✓ **Good practices along the supply chain**

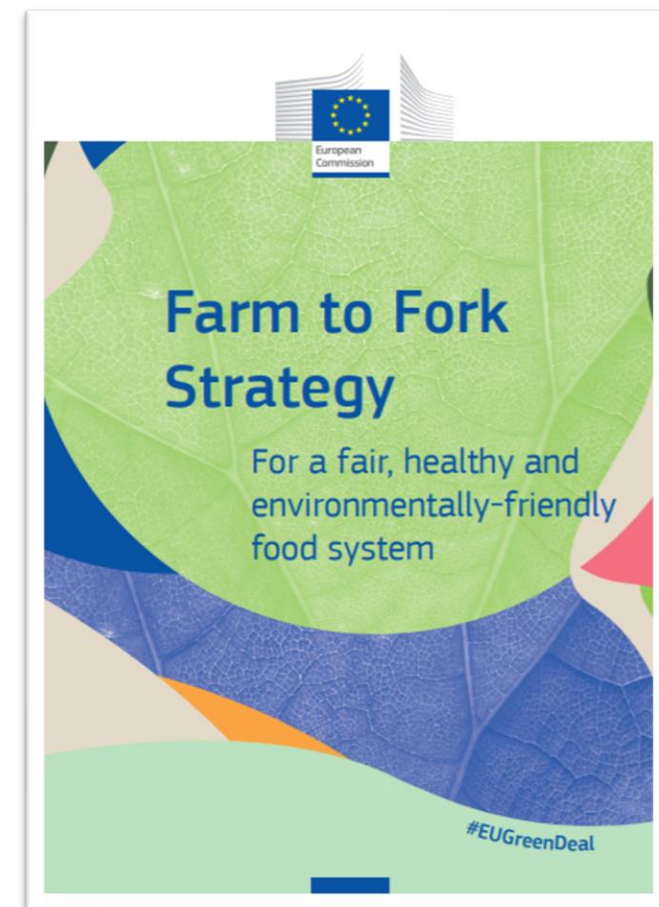
Some Possible Next steps:

- Holistic and integrated (inter-sectorial) (systemic) approach**
- Need for accurate data and systematic measurement of FOOD LOSS at key stages of the value chain and FOOD WASTE at consumer level, and capacity building for data collection at national level**
- Develop national strategies and action plans (including guidelines)**
- Capacity development for actors and institutions across the food systems in policy, technical, and managerial capacities**
- Investing in research and innovative solutions that contribute prevention and reduction of food waste**
- Awareness raising, networking, information and experience exchange, extending to all stakeholders**



FARM TO FORK STRATEGY: STEPPING UP ACTION AGAINST FOOD LOSS AND WASTE

- **EU-level targets** for food waste reduction (proposal adopted in July 2023)
- **Revise EU rules for date marking**
- **Further integrate food loss & waste prevention** as part of all relevant EU policies
- **Investigate food losses** at production stage and explore ways of preventing them
- **Scale up action and mobilise key players** across the EU



THANK YOU FOR YOUR ATTENTION!



16 October 2023
World Food Day

**Water is life, water is food.
Leave no one behind.**

Snezana Savcic Petric

Ministry of Agriculture, Forestry and Water Management, Plant Protection Directorate

Head of the Group for International Cooperation and risk based controls in the area of food safety of non-animal origin on import

Member of the Working group for the improvement of the legislative framework for redistribution of surplus food