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fWTF Getting wicked & fWTF Mind the gap

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August 18, 2022



Good
MORNING



Who are we?

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Malla Mattila

D. Sc. (Economics & Business
Administration)

Academic Director, Senior Lecturer (in MDP
Leadership for Change)



Ulla-Maija Sutinen

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Post-doctoral Researcher



UNIVERSITAS
KATOLIK
PARAHYANGAN



UNIVERSITEIT
GENT



Tampere
University



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PRASETIYA MULYA



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MA CHUNG



Universitas
Pembangunan Jaya



HOTELSCHOOL
THE HAGUE
Hospitality Business School



Wastebusters research group

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- A research group focused on studying waste and circular economy from a business studies perspective
- Members: currently consists of 4 PhDs and 4 doctoral researchers - background in business studies (marketing and management), sociology
 - Associate prof. Elina Närvänen, Senior research fellow Nina Mesiranta, Senior lecturer Malla Mattila, Researcher Ulla-Maija Sutinen and 4 doctoral students



wastebustersfinland.blogspot.fi
Facebook: [Wastebusters Finland](#)
Twitter: [WastebustersFIN](#)

Research activities

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- We actively conduct research
 - Examples of journals where we have published our research: *Industrial Marketing Management*, *Journal of Public Policy and Marketing*, and *Journal of Cleaner Production*
 - We have also edited a volume for Palgrave Macmillan: “*Food Waste Management: Solving the Wicked Problem*”
- National and International projects



Also...

*conference presentations,
invited talks, organising and
attending public events,
media appearances*



Expert Food waste panel



CRRC Conference, Leeds



Turku Food and Wine Fair



University Magazine UTAIIN, Photographer: Linda Manner



CONTENT FOR THE MORNING

- Wicked problems
- Wicked problem of food waste
- Food waste
- Different types of food waste

- Solutions to tackle the food waste issue
- Individual level solutions
- Broader solutions

**fWTF GETTING
WICKED**

**fWTF
MIND THE GAP**

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fWTF Getting Wicked:

Wicked problem of food waste



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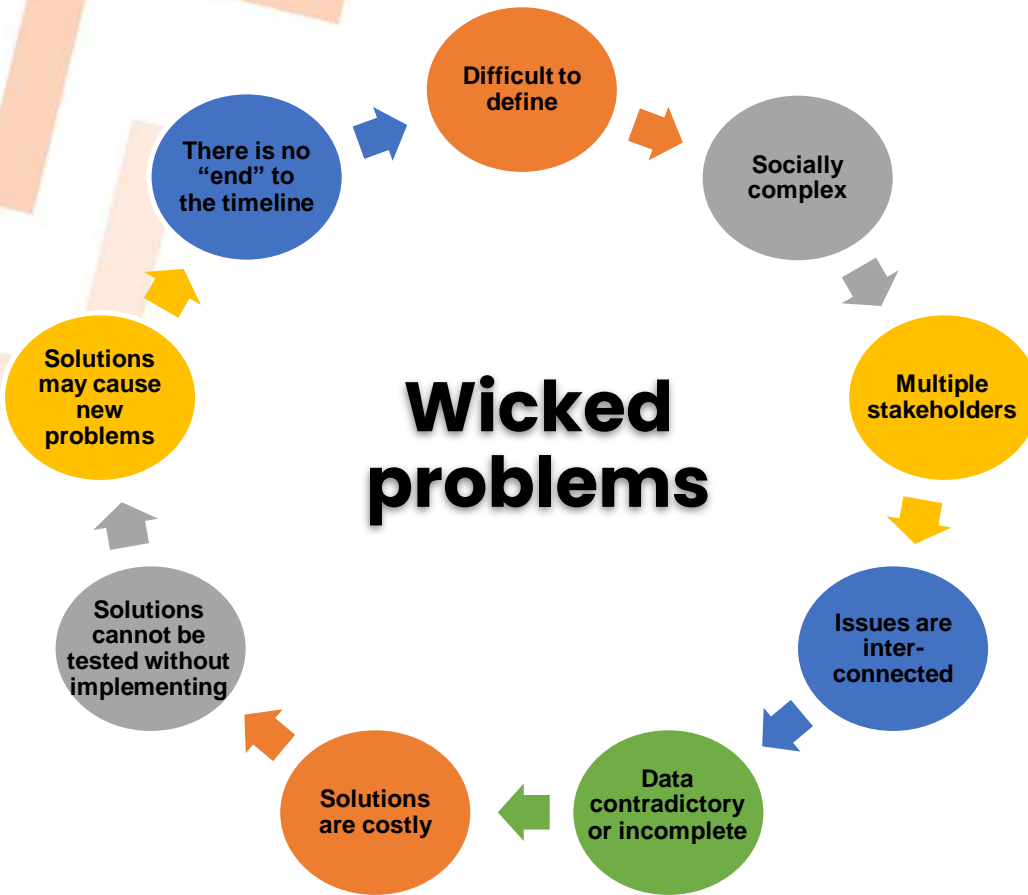


What are wicked problems?





Wicked problems



Wicked problems
require complex,
networked, and
communicative
solutions

Source: Rittel, H. W., & Webber, M. M. (1973).
Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169.



Characteristics of wicked problems

1. A lack of definitive formulation of a wicked problem.
2. No stopping rules that determines when a solution has been found.
3. Good or bad solutions rather than true or false solutions.
4. Lack of immediate and ultimate test of solutions (no opportunity to learn by trial-and-error).
5. Solutions are “one-shot” operations, rather than trial and error.
6. Lack of criteria to indicate that all solutions have been identified.
7. The uniqueness of every wicked problem.
8. Any wicked problem could be viewed as a symptom of another problem.
9. Can be explained in multiple ways (the choice of explanation determines the nature of the problem’s resolution).
10. Planners (policy-makers) have no right to be wrong.

Sources:

Peters, B. G. (2017). What is so wicked about wicked problems? A conceptual analysis and a research program. *Policy and Society*, 36(3), 385-396.

Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169.



“Super wicked problems” of today

Key features:

- Time is running out.
- The same actors causing the problem seem to solved it.
- There is no central authority, or only a weak authority, to manage the problem.
- Irrational discounting occurs that pushes responses into the future (contemporary solutions become less valuable).





Food waste as a wicked problem





WHY/HOW IS FW A WICKED PROBLEM?

YOUR TURN:

THINK REASONS, EXPLANATIONS OR EXAMPLES FOR WHY OR HOW FOOD WASTE IS A WICKED PROBLEM

WRITE YOUR IDEAS ON A POST-IT AND PUT THEM ON THE WALLS

BE CREATIVE AND TRUST YOUR INTUITION → THERE ARE PLENTY OF EXAMPLES AND REASONS





FW as an unstructured problem

No shared problem
definition

→ Varying definitions
affect what gets treated
and measured as food
waste

FW definitions have, for example, considered:

Food loss vs. food waste

or

Surplus food vs. food waste

Some have considered dimensions like:

Edibility vs.
inedibility

or

Avoidable vs.
unavoidable FW

“FW” definition by the EU Commission

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Rather recently, the Commission has been delegated to establish a common methodology to measure food waste levels in the EU (entered into force on 17 October 2019) → introduces a definition for “food waste”

- **“food waste can comprise items which include parts of food intended to be ingested and parts of food not intended to be ingested”** (Article 2)
- **“Food waste does not include losses** at stages of the food supply chain where certain products have not yet become food [...], such as edible plants which have not been harvested. In addition, it **does not include by-products** from the production of food [...], since such by-products are not waste.” (Article 3)
- **“There are several types of food, which are usually discarded as or with wastewater,** such as bottled drinking and mineral water, beverages and other liquids. There are currently no methods for measuring such waste which would ensure sufficient levels of confidence and comparability of reported data. Therefore, such types of food **should not be measured as food waste.”** (Article 10)



Food loss vs. Food waste

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Food loss is the decrease in the quantity or quality of food resulting from decisions and actions by **food suppliers** in the chain, excluding retailers, food service providers and consumers. ... Food loss, as reported by FAO in the FLI, **occurs from post-harvest up to, but not including, the retail level.**

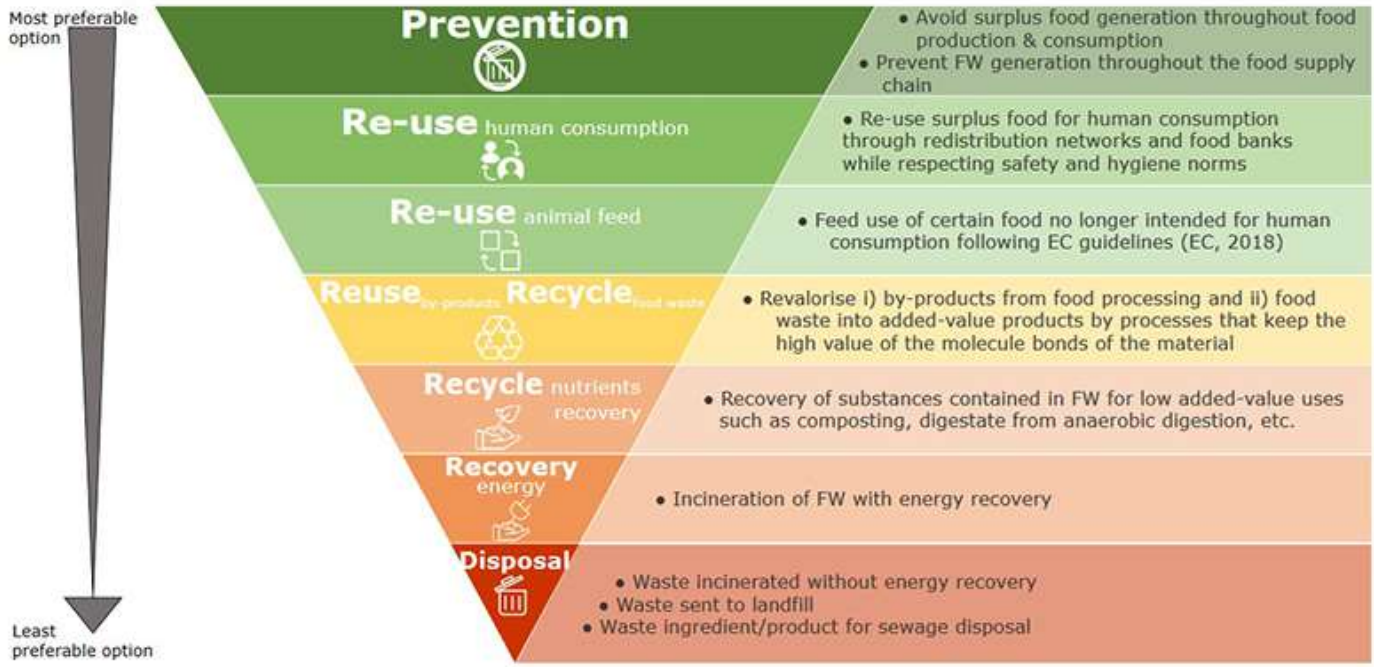


Food waste refers to the decrease in the quantity or quality of food resulting from decisions and actions by **retailers, food service providers and consumers.** ... Large quantities of wholesome edible food are often unused or left over and discarded from household kitchens and eating establishments.

Source: FAO http://www.fao.org/platform-food-loss-waste/en/?utm_content=bufferf8ef3&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Surplus food vs. Food waste

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Source: https://food.ec.europa.eu/safety/food-waste/eu-actions-against-food-waste/food-waste-measurement_en



FW as a unstructured problem

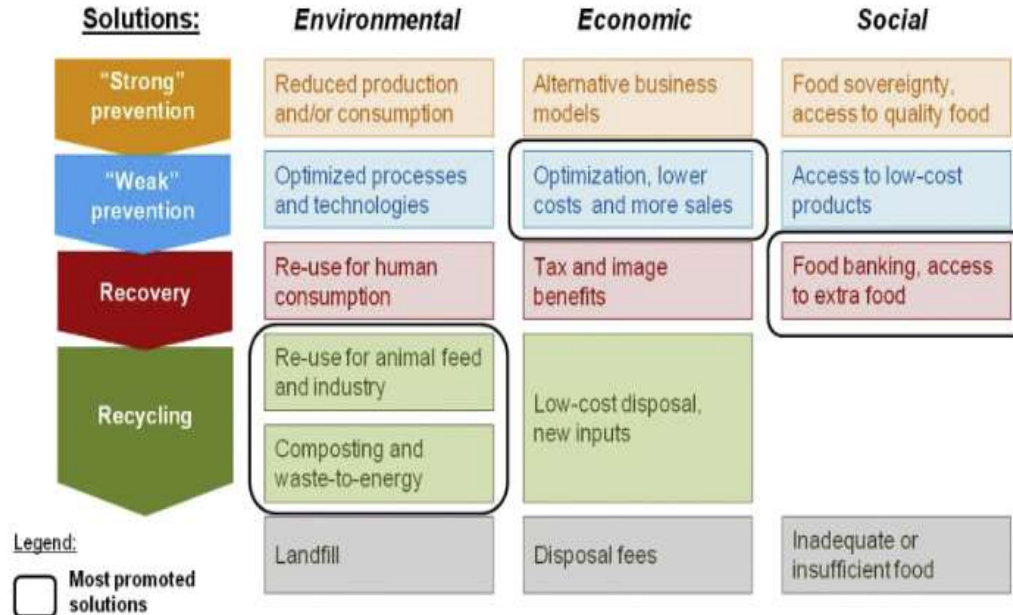
Precise causes and effects of food waste are difficult to identify

→ No existing solution can solve the whole food waste problem

→ Each solution changes how the food waste is perceived

- Solutions for tackling the FW issue may offer competing benefits

Hierarchies:

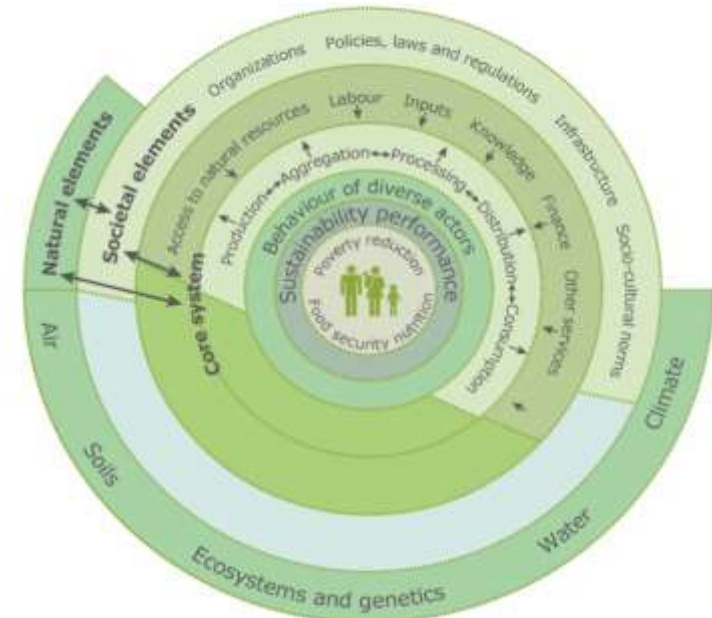




FW as a cross-cutting problem

- FW involves many stakeholders in the food system from field to fork that all have various interests regarding how the FW issue should be solved
- FW is caused at the intersection of several influences across the food system
- Various trade-offs characterise FW as a wicked problem - actors must often balance between different (societal) values (see e.g., Devin & Richards, 2018; Evans, 2012; Porpino et al., 2016; Welch et al. 2018)

Food system wheel



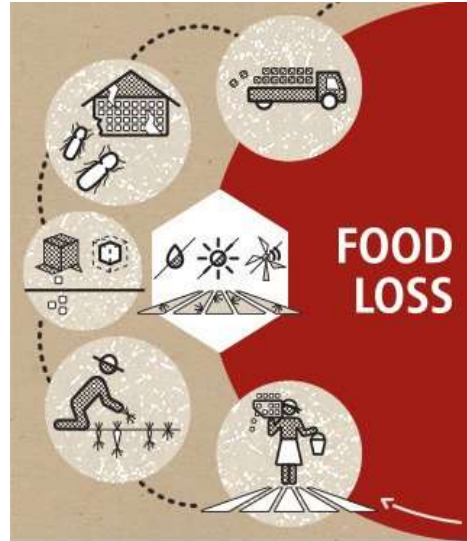
Several actors in food system

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Food suppliers:

- Farmers
- Food processing industry (e.g., bakeries, fisheries etc.)



Consumption and retail stages:

- Restaurants, street food vendors, hotels, catering business
- Retailers (markets, supermarkets)
- Consumers/ households

Waste management

Source: FAO http://www.fao.org/platform-food-loss-waste/en/?utm_content=bufferf8ef3&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

SOME REASONS FOR FW (Block et al. 2016)

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Farmers (agricultural production)

- Weather conditions
- Pests
- Diminishing financial returns for harvesting
- Overplanting
- Quality standards
- Poor organization of farmers
- Government policies

Warehouses and transportation

- Aging or spoilage (e.g. slowness, temperature conditions)
- Damage in transport
- Inefficient transports and warehouses (e.g. boats, trucks)

Food processors/ manufacturers

- Contamination or defects in production (e.g. faulty cold storage)
- Grading standards (e.g. too small produce)
- Contract terms and rejected shipments
- Food safety standards
- By-products not utilised
- Packaging decisions

Retailing and restaurants

- Demands for appearance
- Poor handling
- Poor forecasting of demand
- Poor utilisation of expiry dates
- Price promotions (e.g. two-for-one pricing)
- Food safety regulations
- Oversized packaging or portions
- Food displays

Consumers

- Preferences and habits (e.g. variety seeking)
- Norms, culture and religion (e.g. freshness/health; hospitality)
- Price sensitivity or impulse purchases
- Limited knowledge, skills and materials
- Overcooking
- Time scarcity & family rhythms

Example: FW in Indonesian households

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- Urbanization, retail modernization, middle class growth → changing patterns of consumption that create FW
 - o Shopping at supermarkets
 - o Busy lifestyle → less frequent purchases → change in competences
 - o Fridge ownership → forgetting
- Gifting of leftovers (more affluent → less affluent)
- Waste management: mostly given to animals, composting is very rare



Sources:

Dhokhikah, Y., Trihadiningrum, Y., & Sunaryo, S. (2015). Community participation in household solid waste reduction in Surabaya, Indonesia. *Resources, Conservation and Recycling*, 102, 153–162.

Soma, T. (2018). (Re)framing the Food Waste Narrative: Infrastructures of Urban Food Consumption and Waste in Indonesia. *Indonesia*, 105, 173–190.

Soma, T. (2020). Space to waste: the influence of income and retail choice on household food consumption and food waste in Indonesia. *International Planning Studies*, 25(4), 372–392.

A few more words about household food waste

- Food waste is connected to several phases of practice cycle
- Also overlaps with the practices of other parts of the food system
 - For example: package is too big for single households, vegetable gets spoiled immediately...





Practice perspective to other types of food waste

- Retailer practices, market practices, restaurant serving practises, catering practices, cooking practices, selling practices, marketing practices, logistics practices connected to food/food waste





FW as a relentless problem



Food waste issue cannot be solved once and for all
→ resolution requires continuous efforts from various actors

SDG Target 12.3: “By 2030 halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses”

Source: <https://sdgs.un.org/goals/goal12>

See also [The Sustainable Development Goals Report](#)



IN RECENT YEARS, FOOD WASTE HAS GAINED MOMENTUM IN POLITICAL AGENDAS AND PUBLIC DISCUSSION.

ALSO, THE AMOUNT OF INTERDISCIPLINARY FOOD WASTE RESEARCH HAS EXPONENTIALLY INCREASED

→ THUS, THERE IS A LOT WE ALREADY KNOW ABOUT FOOD WASTE AND TO BE USED AS A BASIS TO FIND SOLUTIONS

ENOUGH WITH THE PROBLEMS!

LET'S HAVE BREAK AND MOVE ON TO FINDING SOLUTIONS

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fWTF Mind the gap:

Towards solutions to the wicked problem of food waste

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FINDING SOLUTIONS FOR FOOD WASTE



There are different types of food waste (which are connected to each other)

Farmers
(agricultural
production)

Warehouses
and
transportation

Food
processors/
manufacturers

Vendors,
retailing and
restaurants

Consumers

AGRICULTURE
FOOD
LOSS/WASTE

TRANSPORTATION
FOOD WASTE

FOOD
SERVICES'
FOOD WASTE

HOUSEHOLD
FOOD WASTE

PRODUCTION
FOOD WASTE (E.G.
BAKERY FW)

RETAILER
FOOD WASTE

Group exercise (Step 1)

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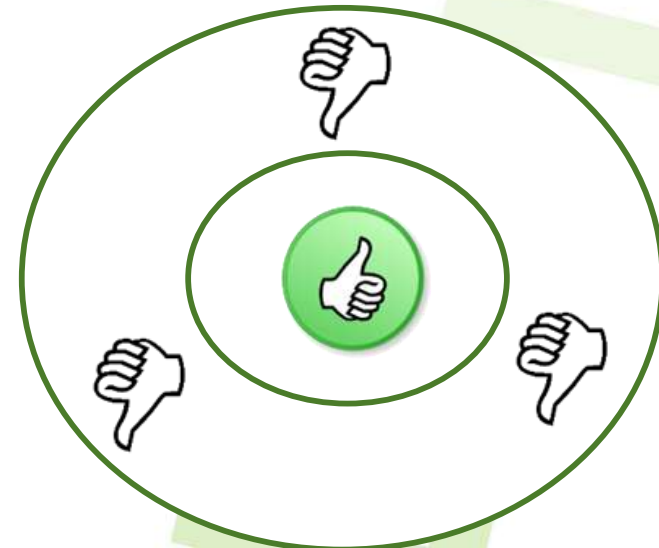
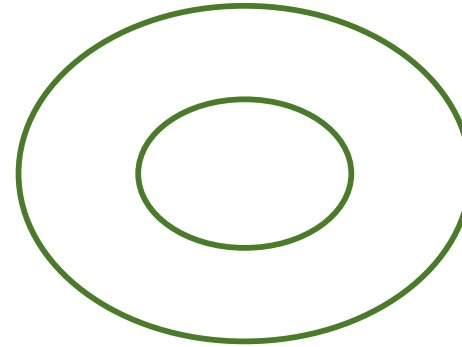
First, you will get a paper where you draw two circles.

Second, discuss in your group from **your case's viewpoint**:

- What is **easy** in the reduction of FW? AND
- What is **difficult** in the reduction of food waste?

Third, please insert

- “**Easy things**” in the **inner circle**
- “**Difficult things**” to the **outer circle**



Group exercise (Step 2)

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Discuss in your group how “**difficult things**” can be turned into “**easy things**”.

Then, **make suggestions** of the activities/tactics/procedures on how to make the changes → write also down in the paper!

- Small steps (e.g., improving guidelines)
- Radical changes (e.g., banning the production of certain FW)

Be ready (one member from each group) to present the circles and your suggestions to others





Group presentations



FW hierarchy as a basis for FW management

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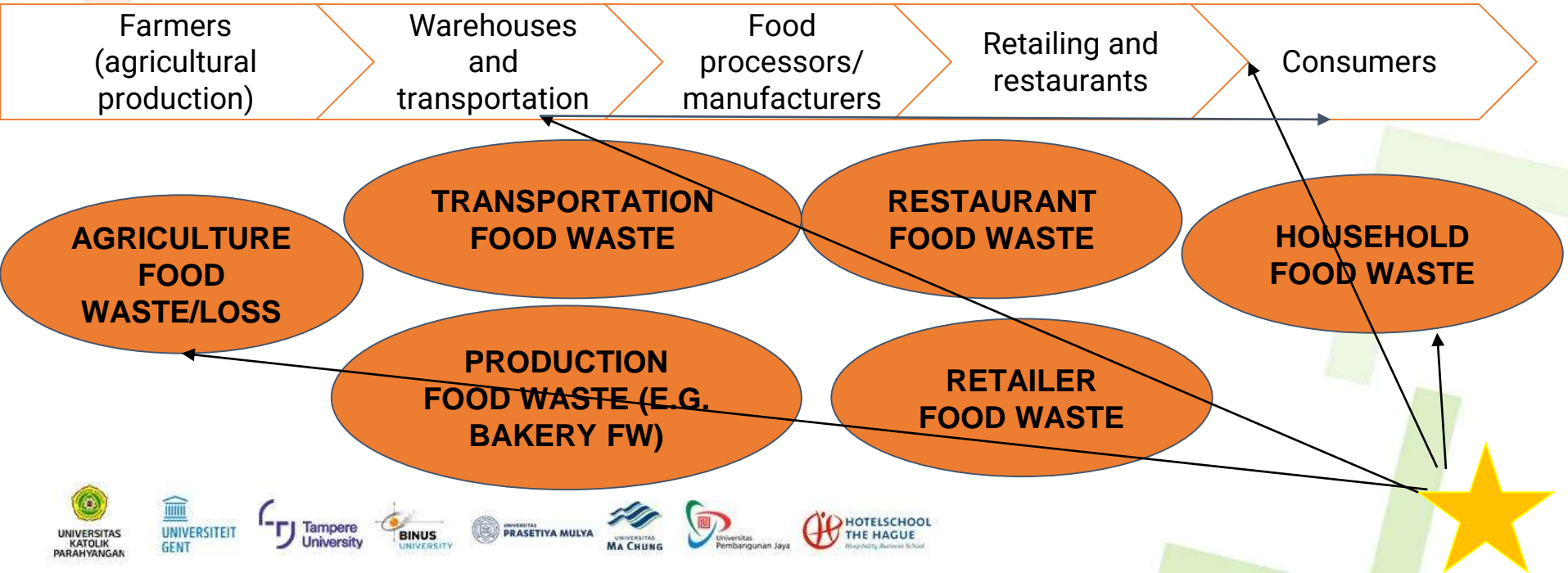
Source: WRAP, 2016



See also: Papargyropoulou, E., Lozano, R., K. Steinberger, J., Wright, N., & Ujang, Z. Bin. (2014). The food waste hierarchy as a framework for the management of food surplus and food waste. *Journal of Cleaner Production*, 76, 106–115. <https://doi.org/10.1016/j.jclepro.2014.04.020>



Different types of food waste → where is the **focus** for the solution?

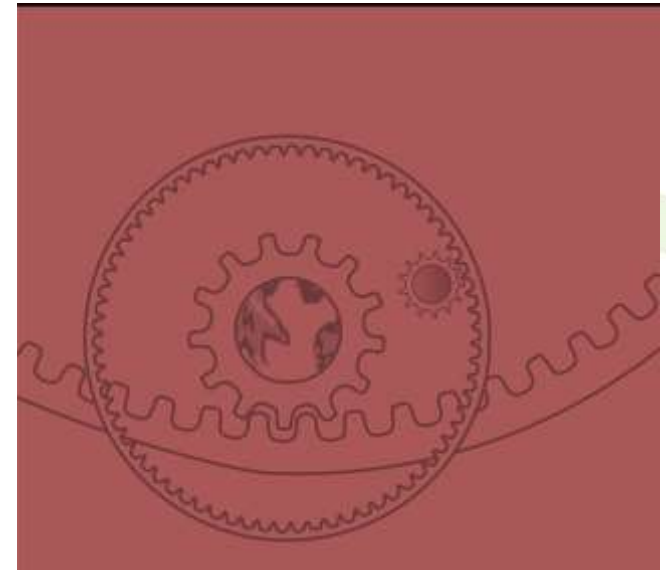




REMEMBER TO THINK ABOUT YOUR APPROACH TO CHANGE!

Does the solution focus on pursuing changes in...

- Thinking
- Attitudes
- Policies
- Habits and actions (nudging)
- Cultural meanings and values
- Practices?





FOCUS ON REDUCING OTHER TYPES OF FOOD WASTE: PREVENTION AT EARLY PHASES OF FOOD CHAIN IS OFTEN VERY IMPACTFUL!

TRANSPORTATION
FOOD WASTE

RESTAURANT
FOOD WASTE

AGRICULTURE
FOOD
WASTE/LOSS

PRODUCTION
FOOD WASTE (E.G.
BAKERY FW)

RETAILER
FOOD WASTE



Innovating solutions to FW reduction

- Innovations can be, for instance, **technological or social**
- Examples include:
 - **food technology:** e.g. how new products can be created from surplus or suboptimal food (into jam, soup, powder etc.)
 - developing **food packaging and design** to take into account FW prevention (e.g. labels, packaging materials, packaging technology)
 - **conversion of organic waste,** e.g. insect-based bioconversion to produce animal feed, fertilizers etc.
 - **mobile applications or digital solutions** e.g. for food sharing (e.g. from weddings – see the FoodCycle initiative)



TECHNOLOGY



resq-club.com



<https://www.mimicalab.com/>

INFORMATION & EDUCATION



<https://www.facebook.com/WRWCanada/photos/a.169139753456/10154971724158457/>



<http://www.fao.org/international-day-awareness-food-loss-waste/en/>

EVERYDAY PRACTICES



<https://s-ryhma.fi/en/news/covid-19-pandemic-has-reduced-food-waste-in-grocery/3KgNWVTWp5RMf0FTbYZibn>



<https://www.elizabethskitchendiary.co.uk/nwfc-2/>

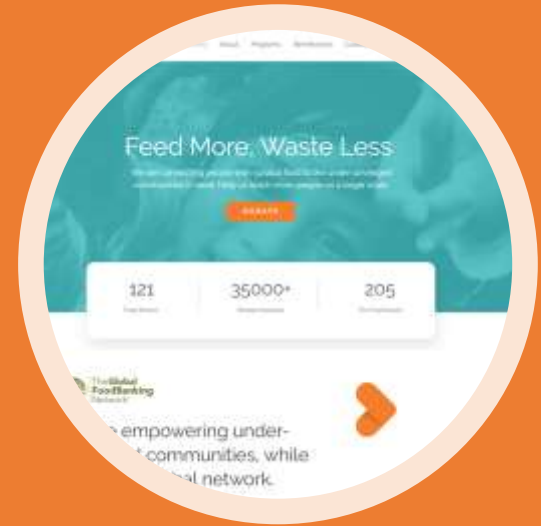
Examples of some solutions



The Feedback organisation in UK



Stop Wasting Food movement in Denmark



Food Cycle initiative in Indonesia

A global movement!



COMPLEX ISSUES NEED INNOVATIVE AND BRAVE CHANGE- MAKERS



THANK YOU FOR YOUR PARTICIPATION!