ECO ENA Researches & Policy Analyses

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RESEARCH WEEK

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Agribusiness & Economics Conference

Zoom Meeting
research_forum@eco-ena.ca

Ghada Gomaa Mohamed, Ph.D., PDFs

- Food Loss / Food Waste Analysis
- “Sustainable Food Systems”.

Food Loss

Main goal

Reducing food losses along the production and supply chains.

Food Waste

Main goal

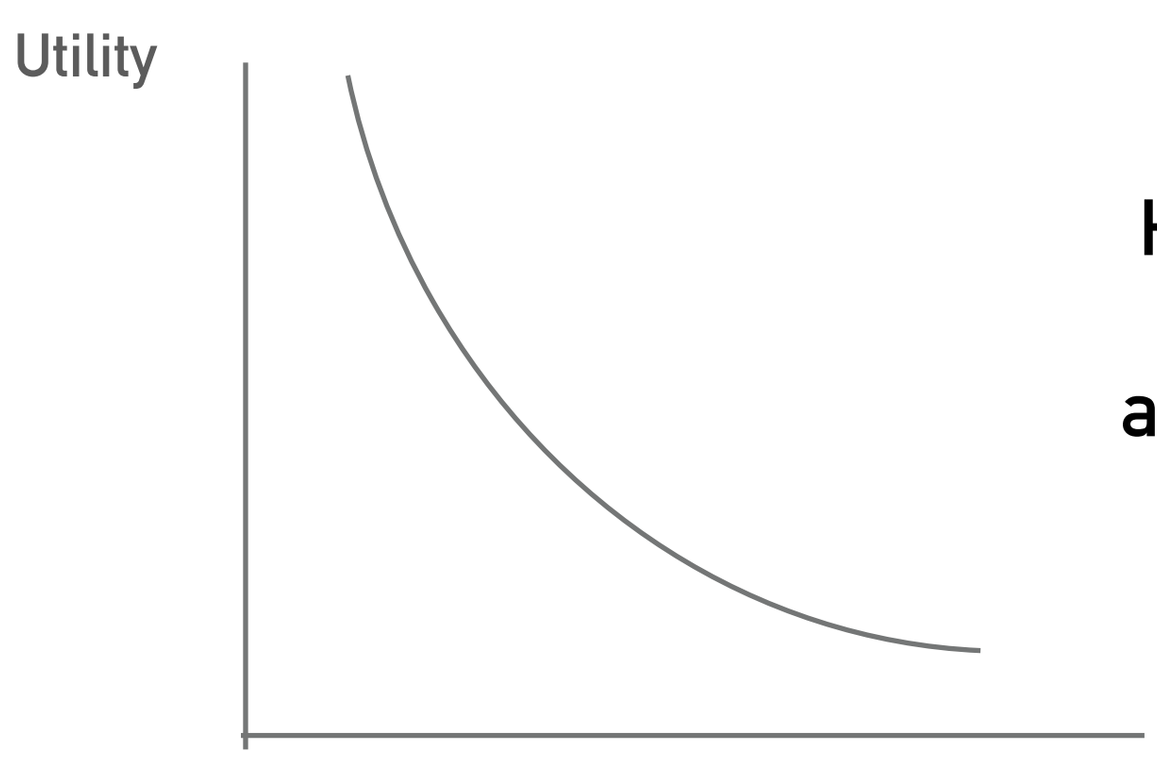
Reducing retail and consumer levels.

HOW REDUCING FOOD WASTE AFFECTS CONSUMERS' UTILITY OVER TIME

- *Consumes' problem*
  - *Max. Utility = f(Agricultural products "Quality & Quantities", Fisheries Products "Quality & Quantities, etc.)*
    - *Subject to:*
      - *Different monetary and non monetary constraints.*
        - *Consider integrations with homogenous behaviour and heterogeneous behaviour of human beings.*
      - *The optimal solution gives quantities and qualities that maximize consumers' utilities*

- *The rationality assumption implies better qualities and more quantities for rational consumers or at least on average.*

- *Food loss/ waste reduces consumers' utility and hence the social welfare in general. Producers as well would be affected by food loss.*



How this can affect the demand side and the consumers' surplus.

FACTS . . ...

- According to the FAO; estimated yearly global food loss and waste by quantity at roughly 30% of cereal, 40-50% of root crops, fruits and vegetables, 20% of oilseeds, meet and dairy products, and 35% of fish.

Food and Agriculture Organization of the United Nations

- Causes for food loss/ waste differ from a developing country to a developed county.

- There are no accurate data on reduction of quality. Yet; there are measures of measuring the quality loss. One of those measures is the questioner approach analysis . ???

Food and Agriculture Organization of the United Nations

GLOBAL INITIATIVE ON FOOD LOSS

HTTP://WWW.FAO.ORG/3/I4068E/I4068E.PDF

AND FOOD LOSS INDEX

UN environment
United Nations Environment Programme

UNEP FOOD WASTE INDEX REPORT 2021

HTTPS://WWW.UNEP.ORG/RESOURCES/REPORT/UNEP-FOOD-WASTE-INDEX-REPORT-2021

FOOD LOSS/ WASTE AND SUSTAINABLE DEVELOPMENT.

- The 2030 Agenda for Sustainable Development reflects the increased global awareness of the problem.

  Target 12.3 of the Sustainable Development Goals calls for halving per capita global food waste at retail and consumer levels by 2030, as well as reducing food losses along the production and supply chains.“

- http://www.fao.org/food-loss-and-food-waste/flw-data)

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➤The Food Loss Index (FLI) and the Food Waste Index (FWI).

➤ **“Indicator 12.3.1 - Global Food Loss and Waste**

➤ SDG target 12.3 has two components, Losses and Waste that should be measured by two separate indicators.

➤ **Sub-Indicator 12.3.1.a - Food Loss Index**

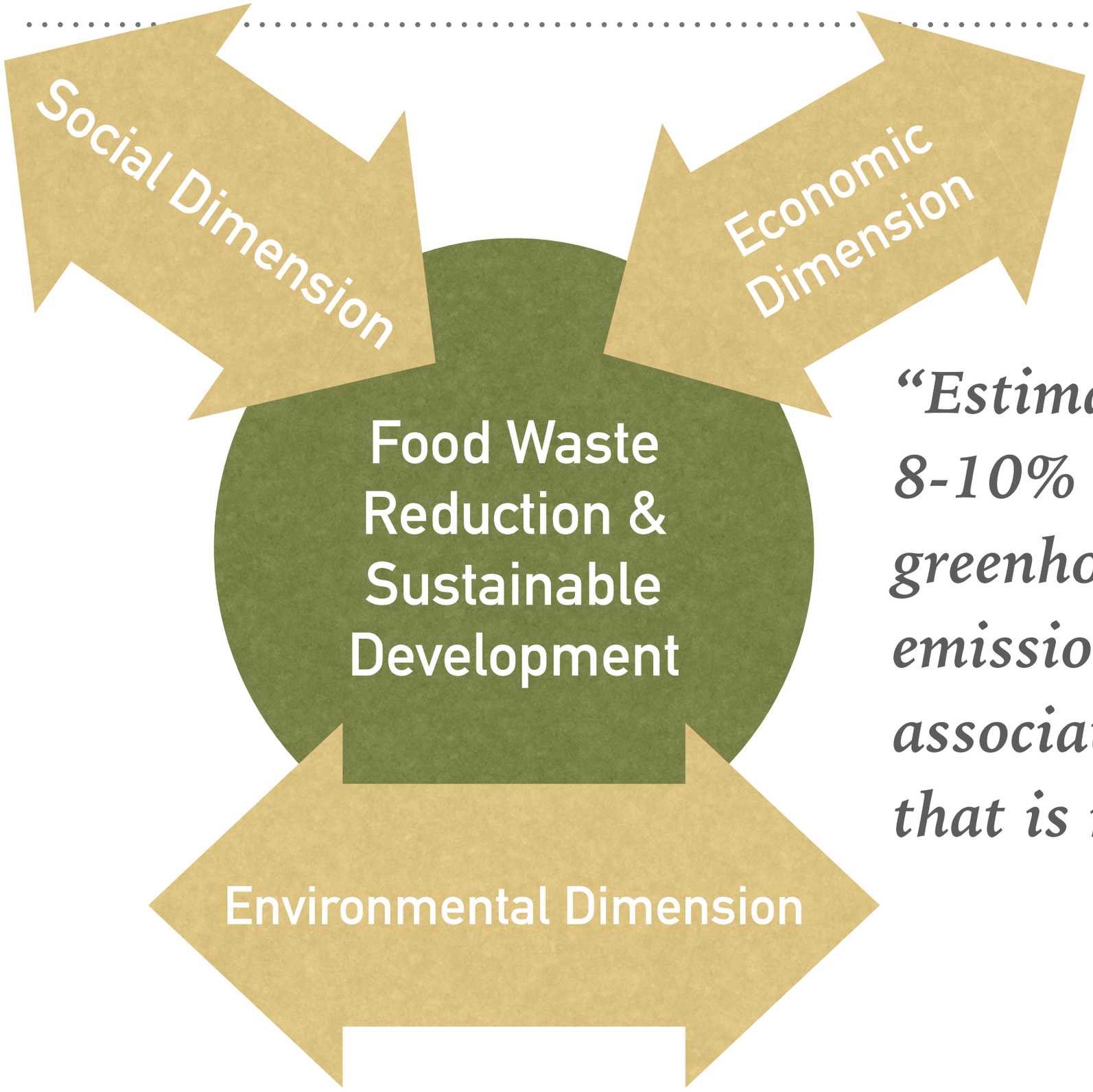
➤ The Food Loss Index (FLI) focuses on food losses that occur from production up to (and not including) the retail level. It measures the changes in percentage losses for a basket of 10 main commodities by country in comparison with a base period. The FLI will contribute to measure progress towards SDG Target 12.3.

➤ **Sub-Indicator 12.3.1.b - Food Waste Index**

➤ A proposal for measuring Food Waste, which comprises the retail and consumption levels is under development. UN Environment is taking the lead on this sub-indicator.”

http://www.fao.org/sustainable-development-goals/indicators/12.3.1/en/

RELATION TO SUSTAINABLE DEVELOPMENT



"Estimates suggest that 8-10% of global greenhouse gas emissions are associated with food that is not consumed.

Theorizing

TO OPTIMALLY SOLVING THE SOCIETY'S PROBLEM

- *Minimize Food waste = F(Human Attitude, Government Policies, Technology, Other factors).*

    - *Subject to;*

    - *1. Money "Who can afford to waste food?"*
    - *2. Human behaviour constraints.*
    - *3. Government Corruption.*
    - *4. Technological limits and capacity of adopting new technologies.*
    - *5. Other constraints.*

POLICY SOLUTION AND STRATEGIES

"Solutions and strategies focus on systemic improvements of the efficiency and sustainability of food supply chains."

An example on Fish Value Chain; "Each stage affects the stage after".

1. Capture fisheries,
2. Aquaculture,
3. Processing & Storage,
4. Wholesale,
5. Transport,
6. Retail, and
7. Consumption.

FOOD WASTE REDUCTION AND INNOVATIONS

- **Technologies that help to reduce food loss/ waste ….**
    - Countries like Canada offers millions of dollars to attract new technologies that help in reducing food waste/ loss with all its dimensions.
        - Agriculture and Agri-Food Canada
        - Food Waste Reduction Challenge: Novel Technologies
            - https://impact.canada.ca/challenges/food-waste-reduction-challenge-novel-tech/the-challenge

DANISH SOLUTION . . .

- https://www.youtube.com/watch?v=e7HwD5Go3io
  - Too Good To Go ….. Application.
    - On the app. you know that resultants that have leftovers to go so you go and buy cheap.

  - Changing Food Label to “Best before that date not bad after” from “Best before that date” …. Because people get confused about this label and throw food out.
    - Best before = High quality.
    - Best before but not bas after = Less quality after but not bad to be thrown away.
    - Grocery stores can resolve this as well by adding boxes or other shelves for less quality food but not bad in lower prices.
    - Grocery stores can have sections of “WeFood” for those less quality but still not bad food with donations by other companies to be sold with 25% or 30% off. We Food = We are still food.

OUR FOOD WASTE REDUCTION INITIATIVE ....

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➤Be a Part of our Food Waste Reduction Initiative.

➤ We aim to compile 1000 original interdisciplinary research works on food waste reduction to publish them in an intellectual encyclopedia of food waste reduction worldwide.

➤ https://www.eco-ena.ca/food-waste-reduction.html

Thank You :)

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