



Measurement and actions to reduce food losses and waste and enhance food system sustainability

Zaragoza (Spain) • 29 May - 2 June 2023



CIHEAM
ZARAGOZA



Objective

Over the last decade, food losses and waste (FLW) has given rise to increasing research efforts and has also become a political priority in a context of global food security, with increasing demand on resources and environmental pressures. Food is generally lost or wasted all along the supply chain, however, while food losses at the early stages of the supply chains are assumed to be highly significant mainly in lower income countries, food waste at the latter stages are more significant in developed countries or larger urban areas. Most of the literature concerning FLW has concentrated on food waste at the latter stages of the supply chain while there is less on food losses, probably due to the complexity of food systems that make it far more challenging to define and measure losses, and propose interventions to prevent and reduce them.

The Global Food Loss Index published in 2019 by the Food and Agriculture Organization of the United Nations (FAO) indicated that, worldwide, around 14 percent of food produce was lost from post-harvest up to the wholesale market. The Global Food Waste Index published in 2021 by the United Nations Environment Program (UNEP), reported that 17 percent of total global food production may be wasted downstream in the supply chain (11 per cent in households, 5 per cent in food service and 2 per cent in retail).

FLW is also included in the UN Sustainable Development Goals (SDGs). In fact, one of the objectives of Goal 12 "Ensure sustainable consumption and production patterns" is to 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, by 2030 (Target 12.3).

At the level of the European Union, the Commission aims at integrating food loss and waste prevention and reduction in EU policies and is committed to halving per capita food losses and waste to achieve the mentioned target. In order to do so, a new methodology for measuring food loss and waste has been adopted. The baseline measurement for 2020 has been published recently (October 2022) and figures indicate that at EU level, per capita food losses and waste were 127 Kg.

To achieve the target of halving FLW by 2030, food policies should adopt a holistic approach that jointly considers both issues. In this context, there is

an increasing need for a better understanding of the drivers and levers of both food losses and waste and how to measure them in order to implement successful interventions. Moreover, there is a need for a comprehensive, scalable and sound methodological framework to assess and monitor the effectiveness of the interventions.

The objective of this course is to provide attendants an updated and upgraded state of the art about issues related to analysing food losses and waste. At the end of the course, participants will have:

- a general idea about the importance of addressing food loss and waste;
- a workable definition of food losses and waste;
- information on the main causes and drivers of food losses (micro, meso and macro levels);
- acquired knowledge of the current tools to quantify food losses and waste;
- insight into strategic approaches to prevent and reduce food losses and waste;
- knowledge on policy-based and action-based interventions;
- a framework within which they can evaluate food losses and waste prevention and reduction strategies.

Organization

The course is organized by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), through the Mediterranean Agronomic Institute of Zaragoza (CIHEAM Zaragoza) and the Food and Agriculture Organization of the United Nations (FAO). It will be held with face-to-face participation and through online, live sessions transmitted from the Mediterranean Agronomic Institute of Zaragoza, for one week from 29 May to 2 June 2023, in morning and afternoon sessions. The programme will be delivered in English and Spanish with simultaneous interpretation.

The course has an applied approach. Formal lectures are complemented with international examples, round table and case studies presented by professionals. Participants will carry out group work on exercises on quantification and impact assessment of the food loss and waste.

The programme requires personal work and interaction among participants and with lecturers. The international characteristics of the course favour the exchange of experiences and points of view.

Programme

1. Opening session and presentation of the course (1 hour)
2. Introduction (1 hour)
 - 2.1. Identifying the problem
 - 2.2. Why is it important to address this issue?
 - 2.3. Current figures
 - 2.4. Underlying drivers of FLW
 - 2.5. FLW hierarchy and potential interventions: basic concepts
3. FLW: the concept (2 hours)
 - 3.1. Food Losses
 - 3.1.1. Mapping flows of food and resources
 - 3.1.2. Causes (macro, meso and micro)
 - 3.2. Food Waste
 - 3.2.1. Mapping flows of food and resources
 - 3.2.2. Causes (macro, meso and micro)
4. Institutional FLW quantification and reporting (2 hours)
 - 4.1. FAO approach to measure food losses
 - 4.2. UNEP approach to measure food waste
 - 4.3. EU approach to measure food losses and waste
5. FLW: theoretical frameworks and strategic approaches to design and implement interventions (6 hours)
 - 5.1. Theoretical frameworks
 - 5.1.1. Related to FL
 - 5.1.2. Related to FW
 - 5.2. Experimental design
 - 5.2.1. Related to FL
 - 5.2.2. Related to FW
6. Policy-oriented interventions to reduce FLW (4 hours)
 - 6.1. Information and educational approaches: Nudging and behavioural change strategies to increase awareness
 - 6.2. Financial and market-based instruments
 - 6.3. Regulatory instruments: international and national strategies, laws and regulations
 - 6.3.1. EU Donation Guidelines
 - 6.3.2. Waste to resources: legislative barriers, technical options and sustainability considerations
 - 6.4. Voluntary agreements and multi-stakeholder partnerships
7. Action-oriented interventions to reduce FLW across the food supply chain (6 hours)
 - 7.1. Upstream segments of the food supply systems
 - 7.1.1. At the farm level
 - 7.1.2. At the processing level
 - 7.1.3. At the wholesale level
 - 7.2. Downstream segments of the food supply systems
 - 7.2.1. At the retail level
 - 7.2.2. At the food service (restaurants and public canteens)
 - 7.2.3. At home
 - 7.3. Food distribution and social protection
8. Impact assessment of interventions to reduce food losses and waste (4 hours)
 - 8.1. Evaluation framework
 - 8.1.1. Experimental design
 - 8.1.2. Effectiveness
 - 8.1.3. Efficiency
 - 8.1.4. Sustainability of the action over time
 - 8.1.5. Transferability and scalability
 - 8.1.6. Intersectoral cooperation
 - 8.2. Complementary tools
 - 8.2.1. FAO tools
 - 8.2.2. European Commission tools
 - 8.3. Trade-offs and burden shifting: how to prioritize interventions
9. Practical work (6.5 hours)
 - 9.1. Exercises on quantification
 - 9.2. Exercises on impact assessment
 - 9.3. Presentation of results
10. Final round table: What's next? (2 hours)



Guest lecturers

Bos-Brouwers, Hilke - Wageningen UR (the Netherlands)
Candeal, Thomas - IFWC (Belgium)
García-Herrero, Laura - JRC - EC (Italy)
Gil, José María - CREDA-UPC-IRTA (Spain)
Rolle, Rosa - FAO (Italy)
Vittuari, Matteo - Univ. Bologna (Italy)

Admission

The course is designed for professionals with a university degree and is addressed to decision-makers, administration officers, food producers, managers and marketers, technical advisors, researchers and NGO and NPO professionals working on or concerned with the implementation of programmes to reduce food loss and waste and, in general, with sustainability of food systems.

The course is designed for 30 participants in face-to-face modality and 30 participants online. Online participation excludes the practical work. Knowledge of English and Spanish will be valued in the selection of candidates, since they will be the working languages of the course. The Organization will provide simultaneous interpretation of the lectures in these two languages.

Registration

- Candidates may apply online at the following address:
- <http://www.admission.iamz.ciheam.org/en/>
- Applications must include the curriculum vitae and a copy of the support documents most related to the subject of the course.
- Applications are open from 22 December to 5 February 2023. Registration will be open between 18 and 23 April 2023 for candidates not requesting scholarships.
- Applications from candidates requiring authorization to attend the course may be accepted provisionally.
- Registration fees for the course amount to 500 euro for face-to-face participation and 350 euro for online participation. This sum covers tuition fees only.

Scholarships

Candidates from CIHEAM and FAO member countries may apply for scholarships covering registration fees. In some cases scholarships may cover the cost of travel and full board accommodation. If you wish to request a scholarship, please complete the relevant section when you make your application online to participate in the course.

Candidates from other countries who require financial support should apply directly to other national or international institutions.

Insurance

It is compulsory for participants in face-to-face modality to have medical insurance valid for Spain. Proof of insurance cover must be given at the beginning of the course. Those who so wish may participate in a collective insurance policy taken out by the Organization, upon payment of the stipulated sum.

Contact: Anamaria, Mario
Academic coordinator
iamz@iamz.ciheam.org