Collaboration Initiative Food Loss and Waste launched at the Meeting of Agricultural Chief Scientists of G20 countries

2025 update on activities

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2015 - 2025

10th Anniversary

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1 Preface

In 2025, the Collaboration Initiative Food Loss and Waste celebrated its **10th Anniversary**. We experienced how closely joy and sorrow are intertwined. The year unfortunately began with a very sad event, as the long-time President of Thünen unexpectedly passed away Mid January 2025 just before his retirement. Prof. Dr. Folkhard Isermeyer funded the position of coordinator of the Collaboration Initiative FLW from 2017 to 2021 with remaining funds and thus laid the foundation for our international activities. Thankfully, he also made additional funds from the general Thünen budget available for the implementation of our annual regional workshops for many years. We would like to express our heartfelt gratitude for this support, as well as for his often critical questions and open discussions, which have helped us to move forward in terms of content. We hope to continue to justify his trust with our work in the future. All the more, we are grateful to continue to receive interest and support for our topic from our new president, Prof. Dr. Birgit Kleinschmit, and look forward to future collaboration!

In 2025, we implemented a series of additional activities throughout the year to make the Initiative more visible for a various number of stakeholders and you can find an activities´ summary in this report. We invited not only present but also previous cooperation partners to look back on joint activities and provide an update in this report from their own perspective. Therefore, on the next pages you will find not only information on our joint activities but also activities from our partner organisations and further ongoing national FLW ventures. This approach supports our aim to share knowledge and experiences within our global network. Enjoy the report!

2 Introduction

The Collaboration Initiative on Food Losses and Waste was founded in 2015 at the MACS-G20 in Izmir, Türkiye. Germany took leadership of the Initiative and from 2015 until mid-2017, Stefan Lange who is the research coordinator at the Thünen Institute and part of the German MACS-G20 delegation, was responsible for the German contribution to that FLW Initiative. Since mid-2017, Germany has been financing the position of a coordinator. The coordinator is located at the Thünen Institute of Market Analysis in Braunschweig (Germany). This position is filled by Felicitas Schneider.

The aim of this report is to summarise already completed and ongoing activities derived from our FLW Initiative, to foster the sharing of knowledge and experience and to invite interested G20, further countries and stakeholders to participate in joint activities. The present report **provides a brief update and summarises the activities in 2024**. In addition, we asked our collaboration partners **to provide a brief insight into their activities beyond the Initiative as well as some country news** in order to provide a broader picture.

This report is published at the Thünen project site, at the MACS-G20 subpage of the Collaboration Initiative FLW and in addition sent out per e-mail to a selected group of interested people dealing with the issue of food loss and waste. Most of them participated in the kick-off workshop held from June 20th to 22nd 2017 in Berlin where participants from 17 countries as well as from FAO, OECD and EU-Commission were present. Furthermore, the report is sent out to the subscribers of our Global FLW Expert and Project database. If you are also interested in receiving information on the activities, please do not hesitate to contact the coordinator by writing an e-mail to felicitas.schneider@thuenen.de. You are always welcome!

If you are interested in learning more about our Initiative and if you wish to contribute, please do not hesitate to contact the coordinator. Furthermore, if you have additional ideas or wish to host a FLW workshop or contribute to the prevention of FLW with any other approach, please reach out to us!

The activities derived from the Collaboration Initiative FLW launched at MACS-G20 focus on G20 members but are not restricted to them. As the food supply chain is global, our activities also address global interaction and include non-G20 members in order to consider inter- and transdisciplinary issues, interactions between different levels of the food supply chain and the corresponding actors as well as the impact of local framework conditions.

We are open for collaboration with any stakeholder along the food supply chain and as you will see in our presented activities in this report, there are a lot of opportunities to tackle FLW together.

3 Overview on activities within the Initiative and beyond

Our activities - finished within the year 2025 as well as ongoing - are briefly described according to the main topics of the FLW Initiative (Figure 1).

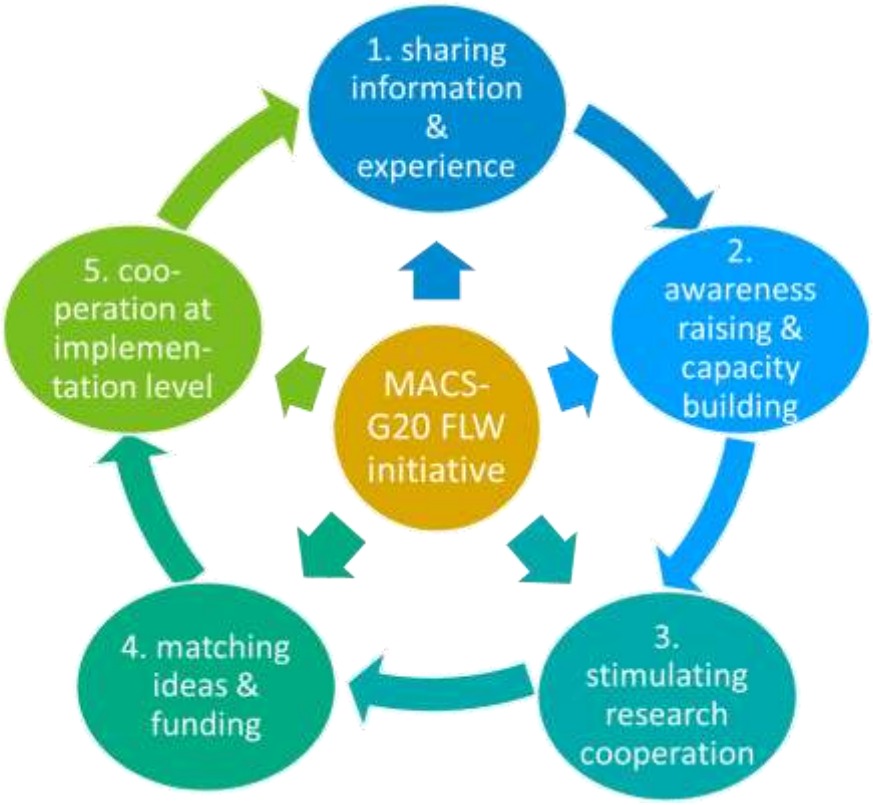

Figure 1 Scheme of the main topics of Collaboration Initiative FLW launched at MACS-G20

3.1 Topic 1: Sharing information & experience

3.1.1 Global Food Loss and Waste Research Platform

The Global Food Loss and Waste Research Platform is an international database where experts register in order to make their contact information and their FLW projects more visible on a global level. Aim of the online Platform is to offer easy access to focused information for policy decision makers, companies and researchers to facilitate network building, knowledge sharing and corresponding action.

Since its launch in spring 2016, 192 researchers from 49 countries entered their contact data into the database (Figure 2). In the past year, the number of researchers could be increased by 6 %. It can be seen that some countries such as Germany, Italy and Türkiye are very well represented while most countries contribute with one or two experts only. Our goal was to reach more experts in those countries and motivate them to register which could also foster national networks. We successfully recruited additional researchers not only in established but also in new countries such as Cameroon, Chile and Kenya.

Most of the 131 registered projects deal with the question on how to reduce FLW by quantity (73). The most targeted food product groups are vegetables (94), fruit (92) as well as cereal products (86) which continues the trend of previous years. Additional information can now be found in the research platform on sectors like “post-harvest and storage”, “processing, packaging, residues”, “wholesale and logistics” as well as “retail and markets”.

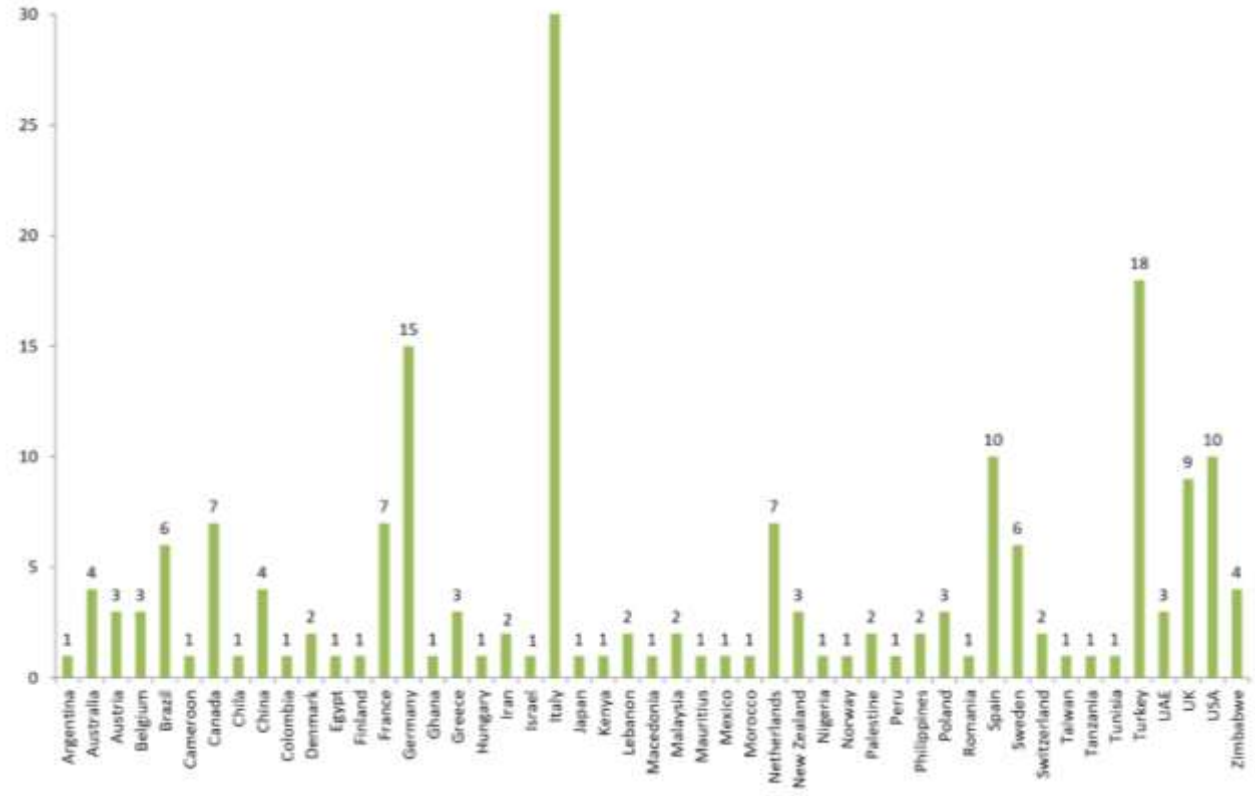

Figure 2 Countries and number of registered experts per country in the Global Food Loss and Waste Research Platform (as of beginning of December 2025)

In order to obtain evidence of the Platform’s recognition at global level, a set of facts were assessed in relation to the website’s access rates. From early December 2024 to early December 2025, 1,496 accesses from 82 different countries were counted for the website in total which represents a 4 % decrease of access compared to 2024. Figure 3 shows the visitors’ countries of origin wherever this could be tracked. The majority of the visitors came from USA, China, Germany, South Africa, Italy, and Spain, with more than 40 different counts each. South Africa ranks the first time among those countries with the highest access rates – clearly connected to our cooperation due to the G20 presidency of South Africa in 2025. In comparison to previous years, the map shows that there were less access numbers per individual countries but we gained additional interest especially in African countries. This seems to be an output from our Regional workshops on FLW prevention conducted in Kenya in 2024 and South Africa in 2025 (see also chapter 3.2.1). Looking at the origin of users by continents, the European continent ranks prior to Asia and followed by North America. In total, all continents are represented by at least 42 unique accesses.

Most of the visitors directly contacted our website (72 %). In contrast, visitors redirected from other websites remained stable in comparison to 2024 (21 %), and those who found our website by using search engines decreased a little bit (from 8 to 6 %). Given the significant loss of accesses from 2023 to 2024, it seems that our strategy of including direct links to our website in our LinkedIn posts, press releases etc. was useful.

Unfortunately, we again experienced technical issues with our Global Food Loss and Waste Research Platform website which we hope to finally overcome by Spring 2026.

Figure 3 Numbers of visitors at the Global Food Loss and Waste Research Platform in 2025

3.1.2 G20 under the presidency of South Africa

The South African G20 presidency in 2025 was promoting the slogan "Solidarity, Equality, Sustainability". The Meeting of Agricultural Chief Scientists of G20 (MACS-G20) took place from May 05 to 07th, 2025 in Limpopo. Stefan Lange as one of the German delegates and as Thünen research director connected to the Collaboration Initiative FLW submitted a greeting message related to the 10th anniversary of the Initiative during this meeting. He briefly summarized the activities of the past 10 years and expressed his gratitude, above all, to the excellent support of the previous G20 presidency countries for their generous support in implementing the annual Regional Workshops. Without the help of colleagues in organizing and administering these events, such a series would not have been possible. Stefan Lange expressed this in his words of thanks. In this year's MACS final communiqué, the delegates of the G20 countries explicitly stated: "We continue to support initiatives emerging from G20-MACS, such as [...] for [...] food loss and waste." You can find the MACS-G20 communique resulting from the meeting here.

3.1.3 European Platform on Food Losses and Food Waste and European Food Waste reporting

The fourth year of the EU Platform FLW term 2022 to 2026 was characterized by sharing experiences related to monitoring methodologies and how to distinguish edible and inedible food parts as well as lively discussions in the forefront of the revision of the European Waste Framework Directive. For detailed information e.g. on agendas, recordings and presentations of all platform meetings or the list of members for the different sub-groups, please see the official website. Our coordinator Felicitas represents the Thünen Institute on the EU Platform as well as the sub-groups "monitoring", "action and implementation" as well as "consumers".

At the platform meeting on November 27th, 2025, our coordinator Felicitas presented the Collaboration Initiative FLW online with selected activities of the past 10 years and highlighted the need for further international cooperation at all levels of the food supply chain as well as to connect policy and research with practical implementation on the ground. Her presentation can be found on the platform´s website.

The **subgroup "monitoring"** was co-chaired by Directorate-General for Health & Food Safety (DG SANTE), the Norwegian Institute for Sustainability Research (NORSUS), MATVETT SA (Norway) and the Norwegian Food Research Institute (NOFIMA) in 2025. Two hybrid meetings of the subgroup were organized focusing on experiences of measurement methods at household and seafood industry levels (meeting in April 2025) and on how selected member states collect data on edible and inedible food waste at different levels of the food supply chain (meeting in December 2025).

The hybrid meeting of the **subgroup "action and implementation"** was co-chaired by Directorate-General for Health & Food Safety (DG SANTE) and Consorzio Bestack which is an internationally active packaging producer. The focus was placed not only on the role of active packaging in reducing food waste but also on awareness campaigns in schools and the role of municipalities in enhancing cooperation with various stakeholders on FLW prevention activities.

The co-chairs of the **subgroup "consumers"**, the Directorate-General for Health & Food Safety (DG SANTE), Wageningen University and Research (WUR/Netherlands) and the Waste and Resources Action Programme (WRAP/UK), organized an in-person workshop on "reducing consumer food waste through effective actions at national level" in May 2025 in Brussels. Felicitas shared her experiences related to the work at Thünen Institute and the Collaboration Initiative FLW. The summary report can be found here.

The **fourth obligatory European food waste reporting** for the year 2023 showed a slightly decreased food waste generation per capita, with 130 kg per inhabitant (2020: 127 kg/cap.yr, 2021: 131 kg/cap.yr, 2022: 132 kg/cap.yr) according to European Statistical Office (Eurostat). The total amount of food waste sums up as follows: households contribute with 69 kg/inhabitant (53 %), food processing with 24 kg/inhabitant (19 %), primary production with 12 kg/inhabitant (10 %), food service with 14 kg/inhabitant (11 %) and finally retail and other distributions with 10 kg/inhabitant (8 %). Those figures have been rounded.

It has to be mentioned that four members states (Bulgaria, Spain, Lithuania and Romania) did not submit new data for 2023, thus data sets from 2022 were used to calculate the European averages. Iceland did not submit data for 2023, thus, 2022 data were used. More information can be found at the corresponding website of Eurostat.

The **revised European Waste Framework Directive** (2025/1892) came into force on October 16, 2025. The main achievements are the introduction of extended producer responsibility (EPR) for textiles as well as setting binding targets for food waste reduction for EU Member States. Finally, the binding reduction targets are minus 10 % in processing and manufacturing, and minus 30 % per capita at retail, food service and households by 2030. The Member States are requested to evaluate and adapt their food waste prevention programs accordingly, and take increased action to support food donation, awareness raising and innovative and technological solutions. The commission will conduct a comprehensive review of the Members´ progress by 2027. Members which show slow progress in achieving the set targets will be requested to speed up and redesign their strategy. The Commission could modify the set targets based on the review results until 2030 or set new targets beyond 2030. The member states have to transpose the directive into national laws within 20 months which is June 2027.

3.1.4 Update on FLW activities in Brazil[1] - Food waste reduction gains visibility in Brazil

Brazil achieved significant progress in advancing the food waste reduction agenda in 2025. In addition to launching the updated **Intersectoral Strategy for Reducing Food Loss and Waste** in September, Embrapa, the Ministry of Social Development and the Fight Against Hunger (MDS), other government agencies, and partners from the private sector and civil society elevated the visibility of the issue across multiple international dialogues. Notable milestones include the **Global Conference on Sustainable Food Systems** of the One Planet Network

[1] The following section was kindly provided by Gustavo Porpino (Embrapa Foods and Territories/Brazil).

(Figure 4), held in Brasília; **the World Circular Economy Forum** (Figure 5), held in São Paulo; Brazil's participation in the **Milan Urban Food Policy Pact Global Forum** (Figure 6); and engagements with UNEP (United Nations Environmental Programme), FAO (Food and Agriculture Organisation), OECD (Organisation for Economic Co-operation and Development), WRAP (Waste and Resource Action Programme), and several partners during COP 30 in Belém, Brazil.

Figure 4 One Planet Network: Embrapa, UNEP and WRAP discussed with partners the opportunities to catalyze food waste reduction policies. (credit: Julia Batista).

Figure 5 Circular Economy: global forum debated the role of partnerships to accelerate the transformation needed. (credit: Fiesp).

Figure 6 Embrapa and MDS interacted with several partners during the Milan Pact Global Forum. (credit: MUFPP).

Another important development was the formal establishment of the **"Brasil Sem Desperdício"** (Brazil Without Waste coalition, Figure 7), an initiative led by WRAP and WWF (World Wildlife Fund) Brazil with support from Pact Against Hunger and the Federal Government.

Figure 7 "Brasil Sem Desperdício" coalition unites public and private actors to mitigate food waste in the country. (credit: Daniel Sigaki).

The second edition of the **National Strategy** outlines 21 actions to address the impacts of climate change and unsustainable agricultural models on dietary patterns and the environment. The document is organized into six pillars: four focus on segments of the food supply chain - production and post-harvest, wholesale markets, retail markets and street fairs, and food services and households. The remaining two pillars address the development of urban public policies and the strengthening of the national food donation system, which already includes 160 food banks within the Brazilian Food Bank Network.

In 2024, the MDS invested R$ 12.8 million (equal to US$ 2.44 mio.) in upgrading food banks. In 2025, a new public call was issued allocating an additional R$ 11 million (US$ 2.1 mio.) for further modernizing food banks and for implementing or improving composting and biodigestion processes aimed at recycling organic waste generated by these units. Investments prioritized food banks located within the Centrais de Abastecimento de Alimentos (Ceasas) - large wholesale markets that handle thousands of tons of food daily. The initiative seeks to modernize physical infrastructure, expand storage capacity, optimize operational management, and promote sustainable waste-handling practices, thereby strengthening the role of food banks in reducing food losses and waste and in promoting food security.

As part of the Strategy's implementation, Embrapa and the MDS partnered to **engage local governments** in developing action plans to curb food loss and waste. Capacity-building activities began with an in-person workshop in Belo Horizonte, conducted with support from UNEP and the All4Food Network. Participating municipalities are part of the Alimenta Cidades (Feeding Cities) program, a federal initiative to promote sustainable food production and consumption in major urban centers. Waste-reduction measures - including strengthening connections between vendors and food banks, investing in the infrastructure of food banks and solidarity kitchens, incentivizing composting practices, and promoting educational actions across the supply chain—will be further expanded at the beginning of 2026 through on-site implementation in ten cities.

Finally, Gustavo Porpino and Priscila Bocchi, coordinators of the national strategy for reducing food waste, contributed a chapter on the nexus between food waste and climate change to the **publication "The Future on the Table"**, released during COP 30 (Conference of the Parties, "World Climate Conference").

3.1.5 Integrating Wet-Lab and Dry-Lab Innovation: Canada's Approach to Circular Agri-Food Systems[2]

Since 2023, the **Science and Technology Branch of Agriculture and Agri-Food Canada (AAFC)** has been leading an ambitious initiative at the Saint-Hyacinthe Research and Development Centre to advance Circular Agri-Food Systems. To meet this challenge, AAFC has developed a technological platform designed to validate the benefits of circular economy practices across the Canadian value chain. Built on five key performance indicators (eco-efficiency, food loss and waste, nutritional value, food safety, and shelf life) the platform integrates predictive models and a relational database to support science-based decision making. Pilot-scale studies in dairy, field crops, and fruit production have confirmed the feasibility of these approaches, generating actionable knowledge for industry and policymakers. The outcomes align with Canada's Food Policy priorities by reducing food waste, improving access to healthy food, and strengthening competitiveness.

Looking ahead to 2030, AAFC will expand this work by combining pilot-scale technologies with computer-based tools at Saint-Hyacinthe Research and Development Centre. This **dual wet-lab and dry-lab structure** will validate innovative processes, quantify feasibility through mass balance analysis, and provide stakeholders (including food processors, food banks, and urban agri-food facilities) with reliable data to guide investment and implementation (Figure 8 Roadmap of the current approach (credit: AAFC own design).Figure 8). Ultimately, the

[2] The following section was written by Dr Sébastien Villeneuve from Saint-Hyacinthe Research and Development Centre in Quebec, Canada.

project seeks **to accelerate economic transformation, foster synergies across the agri-food sector, and reinforce Canada's role in international cooperation**.

This initiative is led by Dr. Sébastien Villeneuve and co-led by Dr. Louis Sasseville, with contributions from AAFC scientists: Dr. Isabelle Germain, Dr. Evelyne Guevremont, Dr. Yves Arcand, and Dr. Marie-Claude Gentès. Dr. Felicitas Schneider from Thünen Institute acts as facilitator for this project in order to share the findings that could also be useful for other countries in the MACS-G20 Collaboration Initiative.

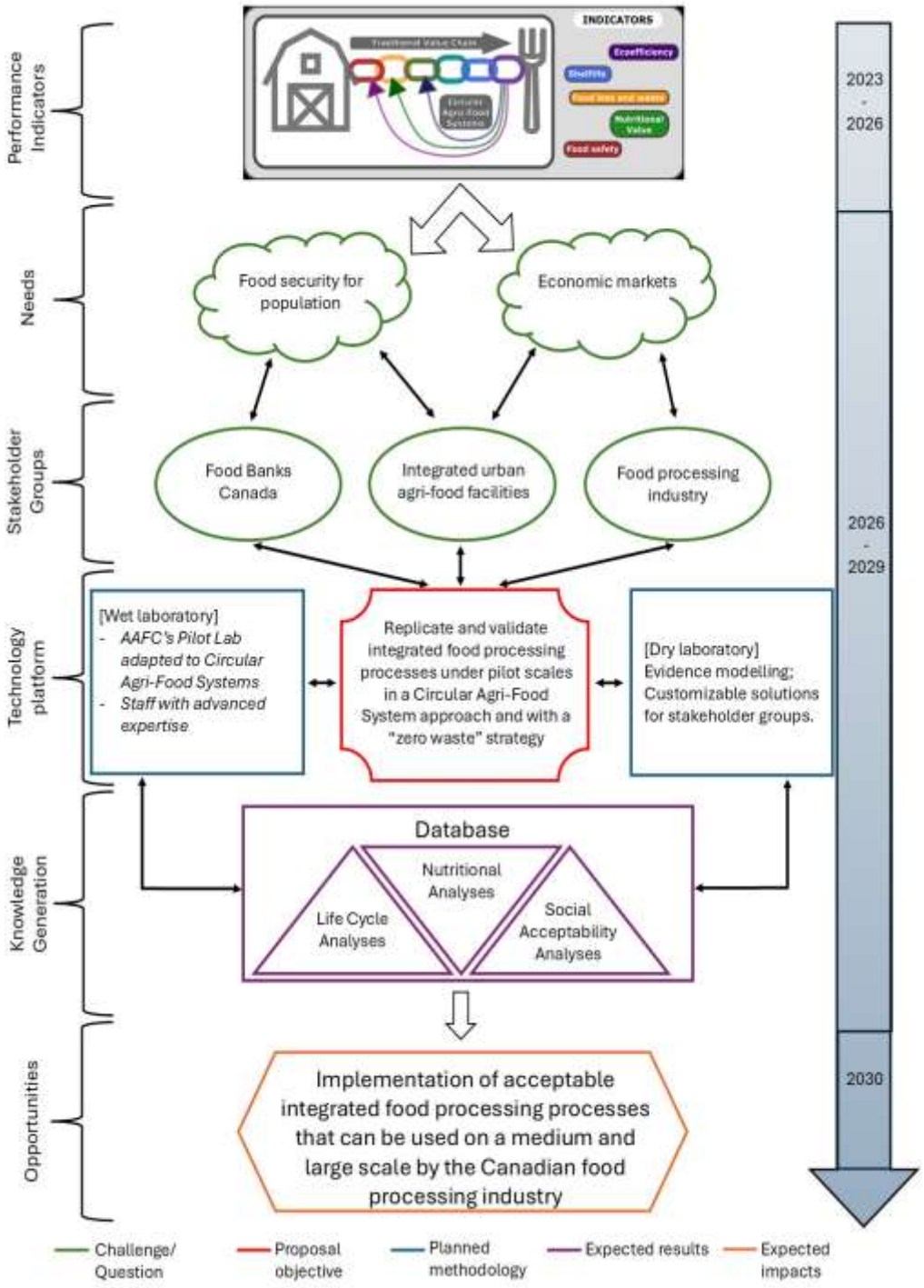

Figure 8 Roadmap of the current approach (credit: AAFC own design).

3.1.6 Review and preview from China[3]

3.1.6.1 FLW-related cooperation within the Collaboration Initiative Food Loss and Waste

As a bilateral platform jointly mandated by the German Federal Ministry of Agriculture, Food and Regional Identity (BMLEH) and the Ministry of Agriculture and Rural Affairs of China (MARA), **the Sino-German Agricultural Centre (DCZ)** has been actively supporting exchange on Food Loss and Waste (FLW) between China and Germany since 2020. Our cooperation contributes to the aims of the Collaboration Initiative FLW by connecting policymakers, researchers, and civil-society partners from both countries.

In support of these aims, DCZ has organized a **series of expert webinars, scientific sessions and policy briefings** for decisionmakers, and has commissioned overview studies on the FLW situation and policy frameworks in China and Germany. The main partners in this work have been the Thünen Institute of Market Analysis and the Agricultural Information Institute of the Chinese Academy of Agricultural Sciences (CAAS), complemented by cooperations with FAO, UNEP, the Good Food Fund, and EU–China initiatives such as SWITCH-Asia "Pride on Our Plates". These activities have helped disseminate the latest developments in China's and Germany's FLW legislation and national action plans and have allowed policymakers to remain informed about both countries' regulatory approaches.

DCZ has also facilitated **durable research partnerships** by enabling regular exchanges, supporting researcher mobility and PhD-level cooperation, and creating opportunities for joint analyses and publications. The research cooperation between the Thünen Institute of Market Analysis and the Agricultural Information Institute of CAAS, facilitated by DCZ from 2020 onwards, has grown into a highly productive Sino-German research link within the FLW field.

These joint activities have ensured continuous dialogue between both countries and contributed to FLW becoming a recurring priority on the bilateral agricultural agenda. The **Joint Action Plan on Agricultural Cooperation** signed by BMLEH and MARA in January 2024, identifies FLW reduction as a key area of future collaboration.

3.1.6.2 Future plans

Looking ahead, DCZ intends to continue strengthening Sino-German exchange on FLW reduction in support of the relevant Sustainable Development Goals, particularly SDG 12.3. We will maintain and **deepen cooperation** with our key scientific partners and continue to facilitate networking, exchange of expertise and mutual learning between both countries. DCZ will also remain engaged in **monitoring policy developments** and supporting **joint dialogue formats** on FLW within the broader framework of Sino-German agricultural cooperation.

[3] This section was contributed by Dr Michaela Boehme from the Sino-German Agricultural Centre (DCZ) in China.

Figure 9 Save Food China Summit with representatives from FAO, Save Food Initiative and other Chinese and international organizations (credit: SWOP).

3.1.7 Review and preview from Ecuador[4]

The **Integrated Management of Food Systems, Transitions, and Sustainability Research Group (GISATs)**, part of the PhD Program in Technological Management, is actively engaged in research initiatives focusing on sustainable food system management to reduce food loss and waste (FLW).

3.1.7.1 Current Research Initiatives

The close collaboration with the Thünen Institute focuses on adapting their FLW methodologies to the Ecuadorian context for robust data collection, addressing an area that remains **incipient in Ecuador**. The GISATs research group is currently executing several key FLW-related projects, notably:

(a) **FLW-reduction educational material** was adapted to the Ecuadorian context, resulting in a methodology to raise awareness among **primary and secondary school students**. The methodology includes multiple workshops and participatory awareness-raising and **knowledge-building activities**, accompanied by initial and final tests to measure the level of knowledge. This was implemented in a Quito school that provides **on-site food service**.

(b) For language students at the **Escuela Politécnica Nacional** and its Continuing Education Center, FLW-related content was incorporated into language teaching. This initiative **cultivated student engagement** through 204 open houses and exhibitions, involving 2,923 students and **generated 5,847** visits from other interested students.

[4] This section was provided by Dr Oswaldo Viteri Salazar (director PIGR-23-04), Javier Cuestas Caza (director PIS-23-08), Dr Xavier Oña Serrano (director PIS-23-21), Lucia Toledo, and other collaborators, who are also members of the research group "Food Systems Management, Transitions and Sustainability - GISATs" at the Escuela Politécnica Nacional/Ecuador.

(c) During this year, participation continued with **Ecology and Environment students** from the Production Engineering program, Escuela Politécnica Nacional. **Approximately 100 students** participated in **fresh food rescue** operations at the Quito wholesale market for the **Quito Food Bank**.

(d) Within the framework of **project PIGR23-04**, food waste awareness and **data collection** (Figure 10) was conducted in the cafeterias of two universities in Quito: the Escuela Politécnica Nacional and the Universidad de Las Américas. **Results were presented** to food service providers to inform service improvements and portion size adjustments. In addition, the findings were shared with university authorities to support the **implementation of sustainability policies**.

(e) Students from the **PhD program in Technology Management** and the **Master's program in Science and Technology Management** (Escuela Politécnica Nacional) who are linked to GISATs have presented preliminary findings on FLW at different academic events: Rethink Food Resources, Losses, and Waste – 2025 (Greece); International Congress on Cereals, Legumes and Related Crops – 2025 (Ecuador); and the **7th Regional Science Meeting – ENACIR** (Ecuador).

(f) Furthermore, in the framework of project PIS-23-08, **waste management strategies have been implemented** in organic farmers' markets (bioferias) in Quito in collaboration with the AGRUPAR program. In parallel, through project PIS-23-21 developed with the Quito Food Bank, a comparative study of methodologies is being conducted to evaluate sustainability aspects in **food rescue**.

Figure 10 Food waste measurements at university cafeterias in Ecuador (credit: GISATs).

3.1.7.2 Future Scope and Publications

For next year, it is planned to **validate the FLW awareness-raising methodology** with other secondary education institutions. Subsequently, a data collection exercise is planned for fruit and vegetable retail shops in Quito. Furthermore, an analysis will also quantify the volume of food rescued by Ecuadorian food banks and assess its impact on the **Water–Energy–Food (WEF) nexus**. Looking ahead to 2026, several articles are expected to be published based on our research results; one of them will analyse the effect of FLW and lost nutrients in relation to the **problem of undernutrition** in Quito. Finally, in the second half of 2026, a congress is planned to discuss the **sustainable management of food systems**.

3.1.8 Update on FLW activities in Germany

3.1.8.1 German National Strategy for Food Waste Reduction

The **German National Strategy for Food Waste Reduction** has been in place since 2019. In 2025, there were some interesting updates achieved:

a. Thünen Institute continued its monitoring activities of the **voluntary agreement in German wholesale and retail** (called Pact). The aim is to reduce food waste by 30 % until 2025 and by 50 % until 2030. The companies reported data on their sales losses (write-off rates), food donations and the distribution of food as animal feed as well as information related to implemented prevention measures for the second time in 2025. The Thünen Working Paper No 276 (English abstract) summarises the results of the new data collection round within the Pact for the year 2024. The total rate of unsold groceries weighted according to turnover was 1.78 % across all 14 companies in 2024. Slightly more than 25 % of this was passed on as food or feed, while the rest was disposed of as food waste. In 2024, the reduction weighted according to turnover was 25 % across all companies as a result of a set of mandatory and voluntary prevention measures. In total, the participating companies implemented 138 reduction measures. More information on that implementation of the Pact can be found on the project website.

b. The **Centre of Excellence for Food Service To Reduce Food Waste** (CoE) was established in 2022 to accompany e.g. restaurants and canteens on their way to reduce food waste and to collect FW monitoring data. Until end of 2024, Thünen Institute supported its partner United Against Waste e.V. with scientific input related to sustainability assessments. The final report is available in German with an English abstract, a more detailed English summary was published in 2025. Updated information is also available on the project website in English. From January 2025, United against Waste e.V. continues the activities independently without subsidies from the ministry.

c. The **private household´s platform 2.0** started in October 2023. Its aim is to further connect stakeholders along the supply chain influencing private household food waste behaviour, introduce a FW measurement feature into the existing app and use this tool for further evaluation of implemented measures on household level. An expert panel was also established to support the work of the consortium consisting of Technical University Berlin and Slow Food Germany. In 2025, focus was laid on practical testing of the revised Too good for the bin app (in German only, Zu gut für die Tonne) and collecting data in cooperation with interested organisations which implement food waste reduction interventions on household level. In addition, there were some promotional events such as a podium discussion at the Slow Food Fair in Stuttgart in April 2025 or at the Sustainability Centre Braunschweig in October 2025, both in cooperation of Slow Food Germany with our coordinator Felicitas. More information can be found on the website of the strategy (in German only).

d. As a result of previous dialogues for specific sectors along the food supply chain, a new intersectional approach **"Together against food waste – dialogue for a new food appreciation chain"** was started in early December 2024 by the German Ministry of Agriculture, Food and Regional Identity. Aim is to support knowledge exchange between actors, identify and prioritise prevention opportunities, develop effective and efficient solutions and facilitate cooperation. Our coordinator Felicitas was invited to present her findings and experiences related to private marketing standards. Her presentation included data from her own and collaboration research from Spain, Italy and Germany, recommendations for interventions as well as potential impact of the upcoming ISO management standard 20001 (see chapter 3.5.1.1).

e. The **Centre of Excellence for Food Waste and Food Loss Prevention (KLAV)** was established in early 2025 by the German Ministry. Among others it aims to support networking among different stakeholders, focus on facilitating businesses in implementing reduction measures and interaction,

create a robust database and identify barriers for successful implementation of prevention measures. More details can be found on the website.

f. The **6th National Action Week on food waste reduction** was announced by the Ministry of Agriculture, Food and Regional Identity and took place from September 29th to October 6th, 2025. In total, 157 in-person and online activities were implemented by individuals, associations, businesses and NGOs all over Germany. The Collaboration Initiative FLW supported the week with activities under the umbrella of the Good Food Festival (see chapter 3.1.8.2).

3.1.8.2 Food Council Braunschweig and Braunschweig region

As reported in our 2022 annual report (chapter 3.1.7), the Collaboration Initiative co-founded the **Food Council Braunschweig and Braunschweiger Land** (so-called **ERBSL**) in November 2022 which has been a registered independent non-profit organisation since end of 2024. The aim is to make food supply in the Braunschweig region more sustainable and socially just. The ERBSL is open for all citizens living in the Braunschweig region and financially supported by the City of Braunschweig. Our intention is to enable the translation of scientific findings into on the ground activities and to receive feedback from different population groups which could further support the understanding of needs for successful implementation in practice. The different working groups of ERBSL were again very active in 2025 by supporting other local food related initiatives, participating in selected decision-making committees of the city and organising awareness raising events towards food and nutrition.

The **ERBSL working group Food Rescue** under its new chair person was very active with the implementation of a series of activities in 2025 as well. We co-organised smaller snip parties in cooperation with community centres, homeless shelters, local church communities, supported other Good Food Festival events, organised a schools poster competition together with the City of Braunschweig and provided awareness raising at climate concerts.

The success of the **Good Food Festival** organised under the umbrella of the ERBSL was continued. For a third time, various food-related initiatives across Braunschweig region collaborated on 14 events in September and October 2025. The type of events varied from a discussion evening related to food environments, sharing cooking recipes for vegetarian mealpreps, enjoying a fair dinner or a fair breakfast composed only from fair traded ingredients, a guided tour to a sheep farm, tastings of different legumes at the Slow Food Day or guided bicycle tours to unharvested public fruit trees. Of course, two snip parties targeting different social groups were also part of the Good Food Festival (Figure 11). A cooperation of the Collaboration Initiative FLW, Slow Food Braunschweig and ERBSL, included a meet and greet with an organic baker who shared his knowledge on best storage conditions of organic sourdough bread while our coordinator Felicitas raised awareness towards bread waste in different levels of the food supply chain while both added tips to reduce bread waste at household level. Another cooperation of the Slow Food Germany, Slow Food Braunschweig and the Collaboration Initiative shared an update on the national household food waste situation and introduced the Too good for the bin app which can also be used for systematic measurement. The revised version also provides recipes and tips how to overcome wastage at home (see chapter 3.1.8.1c).

Figure 11 Snip party related to Thanks giving at the Good Food Festival: mobile kitchen (left), selection of rescued food from retail (center), preparation of raw vegetable salad (right) (credit: Felicitas Schneider)

3.1.8.3 Thünen Institute´s public FLW activities

The Thünen Institute is headquartered in Braunschweig, a small but impactful city in the northern part of Germany. The region hosts various recognised research organisations such as Helmholtz and Fraunhofer Institutes, Leibniz Association research centers, Braunschweig University of Art, Clausthal University of Technology, Technical University Braunschweig, German Aerospace Center, or the Federal Office for Radiation Protection. In 2004, 27 institutions funded the **ForschungRegion Braunschweig e.V.** which cover approximately 19,000 employees involved in the research activities. In order to make research and science accessible, the **Science Showcase** was established in the city center of Braunschweig where the research organisations could present their specific topics and findings to the general public.

Thünen Institute covered two slots in June and July 2025 with selected research topics. While the exhibition in June was dedicated to the impact of women in agriculture, the **photo exhibition** in July was targeting food loss and waste. The centre of the exhibition was built on photos conducted by our coordinator Felicitas in the course of her previous work on the topic. The aim was to highlight specific problems of surplus food and food loss and waste and provide guidance on how to contribute to a reduction. This public event was a very good chance to highlight the 10th anniversary and to show the practical relevance of our research and networking activities. We could also reach regional television for the opening ceremony (Figure 12).

Since September 2022, Thünen Institute´s public relation department addresses pressing topics from Thünen´s research and policy advice agenda within a **podcast format** called "45 minutes future". Together with a professional host, guests from science and practice look into selected topics and provide science-based and solution-oriented answers. On December 16th, 2025, **episode 24 "Plate instead of bin part 2 – is food waste a social problem?"** was released. Our coordinator Felicitas had the great pleasure to discuss this topic together with Prof. Dr. Okka Zimmermann who is a social scientist at IU International University and Technical University Braunschweig under the moderation of journalist Lydia Heller. The podcast is only available in German.

In addition, there was another podcast recorded dealing with the topic of food loss and waste – introducing the new Thünen president, Prof. Dr. Birgit Kleinschmit, into the topic. **Episode 23 part 1 – "Plate instead of bin – how can artificial intelligence save food?"** was recorded live as a panel discussion at the KIDA[5] conference in September 2025 at Thünen Institute. Together with Digitalization Officer at the Federal Ministry of Agriculture, Food and Regional Identity, Prof. Dr. Engel Arkenau, our president discussed examples along the food supply chain where artificial intelligence can support defence of pests, efficient irrigation, estimate shelf life of perishables or increase accuracy of sales planning. Also this podcast episode is only available in German language.

[5] KIDA = artificial intelligence (künstliche Intelligenz in German) and Data

Figure 12 Advertisement board for the exhibition (above left), opening of the exhibition by Thünen public relation department, the Initiative´s coordinator and a food council representative (above center), interview with regional television (above right), participants of the opening (below left), buffet from rescued bread and pastry and spread made of radish leaves (below center), exhibition prior to opening (below right) (credit: Harald Geist)

Last but not least, we also used the regular **Thünen colloquium** (information in German) on October 2nd, 2025 to present a review of selected activities of the Collaboration Initiative FLW from 10 years. More information is provided in chapter 3.2.3.

3.1.9 Update on FLW activities in Spain

3.1.9.1 Preview and review from the Universitat Politècnica de València (UPV)[6]

Since 2018, efforts have been underway to address the challenge of reducing food loss and waste (FLW) in the Valencian Community, a region located along the Spanish Mediterranean coast. These initiatives are aligned with the objectives pursued by the Collaboration Initiative FLW, with which collaboration has been ongoing since 2020. As work progresses, it becomes evident that this challenge must be approached through a **value-chain perspective**, implementing cross-cutting activities and acting across the entire agri-food sector, while also analysing more localized and specific issues related to FLW. Some of the actions already undertaken have been reported in the Collaboration Initiative publications since 2020.

Dr Maria Angeles Fernandez-Zamudio (Universitat Politècnica de València, UPV) has led these efforts, initially since 2018 as the technical coordinator of the **official plan** promoted by the regional government, and currently as a professor of economics at UPV. This work has involved collaboration with various researchers, academics, and organizations committed to the sustainability of agri-food systems. For instance, her primary research focuses on assessing the impacts generated by on-field fruit and vegetable losses and grading rejections at

[6] The text and the figures were provided by Dr Maria-Angeles Fernandez-Zamudio from Universitat Politècnica de València (UPV)/Spain.

storage facilities, and how these affect the economic sustainability of farms. In this line of research, collaboration with Dr Felicitas Schneider and Dr Hector Barco has been instrumental.

When aiming to intervene across an entire territory, policymakers and public administration managers play a critical role; however, there are barriers and requirements that hinder the implementation of an action plan to reduce FLW. To support other regions in diagnosing this issue and **designing a practical work agenda**, a research publication was released in 2025 (in Spanish), based on the experience gained in the Valencian Community (Figure 13).

Figure 13 Everyday gestures illustrating food waste generation at the consumption stage. (source: M.A. Fernández-Zamudio).

One of the core components involves awareness-raising and educational activities targeting both agri-food stakeholders and the general public. Participation continues in various meetings, technical workshops, and similar events to ensure that FLW becomes increasingly recognized and understood by society, as this is key to driving systemic change. In line with this objective, a **short documentary** titled "València: The City That Fuels Sustainable Change" has also been published, showcasing the essence of the work carried out within the HoReCa[7] channel, specifically in the **event tourism sector**—a project sponsored by the CEMAS Foundation and developed over two and a half years (see also chapter 3.1.9.2).

Additionally, Chapter 14 of the book "**Waste: A Planet of Use and Throw Away?**" has been published, where María Angeles Fernandez-Zamudio, Hector Barco and Tatiana Pina explain the implications behind the seemingly simple act of discarding food and analyse why FLW is far more than a mere biowaste issue. After illustrating the specific problem of on-field losses they propose strategies for action at both global and individual levels to achieve more responsible production and consumption. The book (in Spanish) can be downloaded here.

3.1.9.2 Preview and review from the World Sustainable Urban Food Centre of València (CEMAS), Spain[8]

On 3 October 2023 CEMAS, in collaboration with EUFIC (European Food Information Council), organised a **high-level event in València** entitled 'A multi-stakeholder perspective on food loss and waste reduction strategies'. The event brought together actors from different fields, with city networks playing a key central role, given their

[7] HoReCa = Hotel, Restaurant, Catering

[8] The text and the photo were provided by Marina Castillo from World Sustainable Urban Food Centre of València (CEMAS), from January 1st, 2026 Organismo Autónomo Municipal (OAM) València Sostenible (OAM)/Spain.

important function as the voice of civil society and their ability to launch initiatives that affect millions of people in many fields, including food loss and waste. The aim of this event was to foster fruitful dialogue between city networks, universities, research institutes, producers, industry, the media, etc.

The event featured keynote speeches, round tables and interactive sessions, where participants were able to share their experiences and ideas. In one of the round tables (The Global and European Landscape), we were honoured to have Felicitas Schneider, coordinator of the Collaboration Initiative FLW, Thünen Institute of Market Analysis, as a guest speaker (Figure 14). The video of the event is available on the CEMAS YouTube channel. In addition, a short interview was conducted.

Figure 14 Collaboration Initiative´s coordinator Felicitas Schneider at the CEMAS event in 2023 (source: CEMAS).

Another hybrid event was organised by CEMAS in October 2024, targeting "**Capacity building for FLW prevention and reduction in cities**" which benefited from inputs from the European Commission, the Joint Research Centre, the Municipality of Cagliari, the Municipality of Warsaw, the Municipality of Milan, the Municipality of Courbevoie, the Municipality of Gothenburg, and representatives from the United Nations. The recording of the event is available here and a summary of the findings can be found here.

In 2025, CEMAS has released a **documentary video** "València's: The City That Fuels Sustainable Change" aimed at showcasing València's potential as a city that leads the way in sustainable food and gastronomy, as well as highlighting the work carried out in recent years to advance in this direction through the MagNuS project - Magnitude, Nutrition and Sustainability - a project promoted by CEMAS alongside the Lluís Alcanyís Foundation of the University of València, the València Conference Centre and its catering company, Gourmet Catering & Eventos, with the support of NARIA. The purpose of this project is clear: to prevent and reduce food waste within the events tourism sector and meetings. Felicitas Schneider, coordinator of the Collaboration Initiative FLW at Thünen Institute of Market Analysis, participated in the documentary with a few words that contextualise the problem of food loss and waste.

From January 1st, 2026 CEMAS has been incorporated into a new entity which is **Organismo Autónomo Municipal (OAM) València Sostenible**. It works in the area of energy, environmental education, urban adaptation and food and also has an important line of transformative projects, participating in various European projects. The new website can be accessed here (in Catalan and Spanish).

3.1.10 Cooperation with Die Tafel Österreich, Austria[9]

In 2025, according to Statistics Austria **336,000 people** in Austria, including almost 80,000 children, are **affected by poverty**. This figure has doubled in the past three years. A further 1.5 million people are considered at risk of poverty or social exclusion. In total, 12% of all Austrians suffer from moderate to severe food insecurity. At the same time, more than one million tons of food are thrown away every year in Austria alone; over 50% of this waste occurs in households. Only around 30,000 tons reach people affected by poverty through charitable channels. This discrepancy highlights a serious social imbalance that is both socially and ecologically alarming.

Die Tafel Österreich regularly **provides over 75,000 people** with the help of around 160 charities with **free food** that would otherwise be discarded. In 2024 alone it saved **1,578 tons of still-edible food** and distributed it through social institutions to people affected by poverty. This is made possible by the strong network of around 300 volunteers, partner companies, and donors.

3.1.10.1 Die Tafel Österreich brings the Global Food Donation Policy Atlas of Harvard Law School to Austria

On October 14, 2025, Die Tafel Österreich presented the international research project **"Global Food Donation Policy Atlas" from the Food Law and Policy Clinic (FLPC) at the Harvard Law School** at a kick-off symposium in Vienna. The FLPC advises governments and non-profit organizations on legal issues related to food policy, particularly on reducing food waste and promoting donations.

The Global Food Donation Policy Atlas is an international research project that has since 2018 analysed the legal and policy conditions for charitable food redistribution. At international level, FLPC, together with the European Food Banks Federation (FEBA) and the Global Foodbanking Network (GFN), has examined 27 countries to identify best practices and formulate policy recommendations. Austria is the third European country – after Ireland and Poland – whose legal, political, and economic framework for food donations will be analysed.

The initiative aims primarily to examine national strategies, laws, and guidelines related to waste prevention and charitable redistribution, and further, to understand how these are implemented in practice, evaluated by different stakeholders, and ultimately enforced. From this analysis, the Harvard legal experts will derive concrete recommendations on how charitable food redistribution can be strengthened in Austria.

In his talk Trevor Findley from FLPC emphasized that in many countries, well-intentioned but unclear or contradictory laws cause businesses to discard food rather than donate it. "Food safety is, of course, important – but it must not be used as an excuse for waste," said Findley. He presented the nine key policy areas analysed by the Atlas:

- national waste management plans and prevention laws,
- food safety,
- date labelling,
- liability protection,
- tax incentives,
- tax barriers,
- measures to prevent food waste,
- public funding and other benefits, and
- reporting on emissions, environment, and food waste.

[9] This section was provided by Alexandra Gruber from Die Tafel Österreich/Austria.

Examples from other countries show that it is essential to take a holistic perspective and link policy areas under supportive conditions: in Ireland, for instance, there is a **national action plan, clear responsibilities, and government funding programs**. Poland combines **tax relief with obligations of donations for large retailers**. In the United States, the **Good Samaritan Food Donation Act** protects donors and other participants, while Colombia even grants a **25% tax deduction for donations**.

Figure 15 Moderator Sabine Zhang (Trainconsulting), Trevor Findley (Food Law and Policy Clinic), Alexandra Gruber (Die Tafel Österreich), Felicitas Schneider (Collaboration Initiative FLW) and Ignazio Corrao (European Food Banks Federation) (source: Die Tafel Österreich)

Findley summarized: "Where there are clear laws, the willingness to donate increases – benefiting the environment, the economy, and society alike."

The **subsequent discussion** (Figure 15), moderated by Sabine Zhang (Trainconsulting), vividly illustrated the complexity of the subject. The panel included Alexandra Gruber (Die Tafel Österreich), Ignazio Corrao (FEBA), Trevor Findley (Harvard Law School), and Felicitas Schneider (Thünen Institute of Market Analysis).

Felicitas Schneider spoke about her first research project in Austria in 2001, inspired by experiences in retail and by the then-new initiatives Wiener Tafel (now Die Tafel Österreich) and Sozialmarkt Linz (SOMA). She reported that the topic of food waste is gaining increasing attention in Germany, and that cooperation between food banks and food-sharing organizations is growing.

Liability and food safety were discussed intensively. Trevor Findley emphasized that worldwide, there are hardly any known cases in which donors were held liable for damages. The perceived fear is much greater than the actual risk. A liability protection law in Austria could therefore provide crucial relief.

One participant from the audience summed up a key insight succinctly: "The future of food rescue lies in the field – and in cooperation with agriculture." This statement captures what was felt throughout the afternoon: it is about cooperation, not competition; about responsibility, not blame; about systemic solutions, not isolated initiatives.

The symposium marked a milestone in Austria's discussion on food waste and charitable food redistribution. For the first time, an international research institution – Harvard Law School – will systematically analyse the legal and political framework and provide recommendations for reform.

In the end, one message resonated repeatedly throughout the afternoon: **food rescue is more than waste prevention** – it is an expression of humanity, justice, and responsibility. And it creates high added value. With clear legislation, targeted funding, and social recognition, Austria can show that social innovation and ecological reason go hand in hand.

More information (presentations, videos, photos) can be found here (text in German).

3.1.10.2 Die Tafel Österreich goes „virtual foodbanking" – die Tafel-Drehscheibe

In 2025, Die Tafel Österreich officially launched the **"virtual food banking"** model in Austria, which has already been well established by many European food banks. The Tafel-Drehscheibe (a Software-as-a-Service solution, SaaS) is the digital transformation of the food bank model that has proven successful for decades (Figure 16).

Figure 16 Logo of the virtual food banking activity "Die Tafel-Drehscheibe" (source: Die Tafel Österreich)

The principle of rescuing food and distributing it free of charge to people affected by poverty in social institutions — previously carried out with Die Tafel Österreich as a physical hub — has since 2022 been gradually transferred to a virtual system. All processes along the value chain (from agriculture, retail, and production to community catering, logistics, warehousing, and allocation to social institutions) are systematically integrated into the digital hub.

This is only possible thanks to the know-how accumulated over 26 years and the profound understanding of all parties involved. As a result, surplus food—whether in large or small quantities—can be transferred even more quickly, regionally, and in a targeted manner directly from donors to nearby social institutions.

More information can be found here (in German).

3.1.10.3 "Das Geier-Tafelsackerl": Launch of the first surplus bakery bag in Austria doing ecological and social good

For nearly 20 years, the Weinviertel-based bakery Geier has been working with Die Tafel Österreich, providing bread, pastries and sweets from the previous day for collection, so they can be distributed to people in need.

In 2025 the collaboration to combat food waste and poverty was expanded through the bakery Geier's "reduced-price bags" (Geier-Tafelsackerl, Figure 17). From now on, these bags not only create ecological value, but also create social value: **50 cents per bag go to Die Tafel Österreich**. With one Euro Die Tafel Österreich can offer 5 meals to people in need.

Figure 17 Cooperation between the bakery Geier, Ms Tschernig, and Alexandra Gruber, Die Tafel Österreich (source: Thomas Topf)

Around the UN day of food loss and food waste on September 29th a booklet of old bread recipes was distributed for free with every Geier-Tafelsackerl.

Overall, the Geier Tafelsackerl helps to create awareness about food waste as well as about food insecurity of people in need within civil society in Austria. More information can be found here (in German).

3.2 Topic 2: Awareness Raising & Capacity Building

3.2.1 9th Regional FLW Workshop in Pretoria, South Africa

One aim of our activities is to organise an annual **Regional FLW Workshop**. To take the G20 responsibility more into account, the workshops are a cooperation of the Thünen Institute with partners from the corresponding G20 presidency country and they target the neighbouring region of that country. The workshop series started with the kick-off workshop in Berlin/Germany in 2017. It was followed by a Regional FLW workshop organised for Latin America and the Caribbean countries (LAC) in November 2018 in Buenos Aires/Argentina. In 2019, the target region included Southeast and East Asian countries while the workshop took place in Tokyo/Japan. The first hybrid workshop was conducted in collaboration with Saudi Arabia in 2020 targeting Gulf Cooperation Council Countries plus the Yemen. Due to the pandemic we conducted the first complete online workshop during the Italian G20 presidency in 2021 targeting the Mediterranean countries. In 2022, we reached a new record of more than 500 participants in our hybrid workshop held in Indonesia. All video recordings of the sessions including English subtitles together with a summary and a selection of photos can be found on our website. In 2023, our workshop took place in New Delhi, India, targeting the South Asian Region. Brasilia/Brazil was the location of the workshop in 2024, targeting Latin America and the Caribbean.

Our **Regional Workshop on Food Loss and Waste Prevention in Sub-Saharan Africa** took place from October 27 to 29, 2025 in Pretoria, South Africa, as part of South Africa's G20 presidency. The German Ministry of Agriculture, Food, and Regional Identity (BMLEH) and the Ministry for Primary Industries (New Zealand) provided financial resources as part of the Bilateral Alliance for the Climate (AgriDENZ). With the help of the findings from the preparatory workshop held in April 2024 in Nairobi, Kenya, we already had a starting point for the key topics and framework conditions which were selected as supportive for the 2025 workshop.

The workshop was jointly organized by the National Department of Agriculture of South Africa (NDA), the Agricultural Research Council of South Africa (ARC), Ag Emission Centre, Global Research Alliance (GRA), the African Union, the United Nations Environment Programme (UNEP), the University of Nairobi, the Council for Scientific and Industrial Research (CSIR), the UN Sustainable Development Solutions Network (SDSN), The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), Qinisa Initiative and the Thünen Institute.

About 120 participants from 17 countries including South Africa, Botswana, Ghana, Kenya, Mauritius, Nigeria, Senegal, Tanzania, Zambia, and Zimbabwe attended the workshop (Figure 18, right). The participants represented a mix of experts and practitioners from businesses, industry bodies/associations, national and international non-government Organisations, national governments, research institutions, consultants, foundations and United Nations Organisations. We particularly welcomed young entrepreneurs and students to share their own insights and to learn from others' experiences during the workshop.

The workshop opened with a series of **high-level welcome statements** underscoring the global urgency of reducing food loss and waste (FLW) and strengthening climate-resilient agri-food systems. The speakers included the Ambassador at the New Zealand High Commission to South Africa, the Agricultural Counsellor at the German Embassy to South Africa, representatives from our cooperation partners and – a very special honour – the Deputy Director General Kwena Komape who is the Convenor of the G20 Agricultural Sherpa for Food Security, South Africa (Figure 18, left).

Figure 18 The panel of the opening session (left, credit: NDA), group photo (right, credit: NDA)

Five plenary sessions and nine break-out discussions (Figure 19) provided a rich thematic input for the participants, covering topics of policies, data collection, modelling, connecting stakeholders, participative approaches, gender equality, utilisation of by-products, business models, blockchain technology, food donation, waste management, early-career collaboration, and others along the entire food supply chain and various food product groups. The discussion formats were completed by an **exhibition** (more than 19 posters and seven stalls) as well as an **excursion** to an aquaponic farm (Figure 20).

Figure 19 Group work in the break-out discussions (credit: F. Schneider)


Figure 20 One group in front of the vegetables green house of the aquaponic farm (left) and the lettuce production (right) (credit: Felicitas Schneider)

The workshop also benefited from the presence and exchange of experiences from projects such as the Qinisa Initiative, SolFOOD, GLEAM-X, Green Futures, and Transforming City Region Food Systems which are also funded by BMLEH and/or MPI.

The South African Broadcasting Corporation (SABC) visited our workshop on the first day and created a short video (04:25 minutes) which is available here.

At our website the **agenda** together with most of the **presentations and posters**, a comprehensive **summary** of the workshop and many **photos** can be found. We thank all our funding partners, the members of the organisation team, the session chairs, the speakers, the facilitators of the breakout discussions, the Thünen admin office, the Aquaponic business owner and all participants for their valuable input to the workshop.

As one result of the workshop, the new **Food Loss and Waste Researcher Network in Africa** was established. More information can be found in chapter 3.2.2.

3.2.2 Food Loss and Waste Researcher Network in Africa newly established[10]

The **FLW Researcher Network in Africa** emerged as a result of the MACS G20 Regional Workshop held in Pretoria in October 2025, where participants expressed strong interest in strengthening collaboration and working more closely together on food loss and waste research across the continent. The network aims to foster collaboration, facilitate knowledge exchange, and enhance the overall impact of research on food loss and waste in Africa.

We are currently in the process of building up our **membership**. In early 2026, we are circulating a Google Form, and so far, 22 researchers from 12 African countries and 3 from outside the continent have joined the network using the form. In addition, we have an **active LinkedIn group** with approximately 120 members from Africa and across the world.

The network is currently guided by a steering committee of four members. Looking ahead, we are planning to host a webinar in March 2026, which will serve as a soft launch of the network. This event will provide an opportunity for members to meet for the first time and will include an overview of the current state of food loss and waste research in Africa. Further details on the webinar, other planned activities, and the Google Form link for joining the network will be shared via our LinkedIn group.

[10] This chapter was provided by Dr Sharon Yeukai Mada from Thünen Institute, Germany.

3.2.3 International Day of Awareness of Food Loss and Waste (IDAFLW)

At the Collaboration Initiative we are very proud that we were able to support this great idea from the very beginning in 2018 under the G20 presidency of Argentina (see our Annual Report 2020). Since 2020 when the day was introduced, the 29th of September is celebrated by several global organisations, research institutes and stakeholders dealing with FLW prevention. In 2025, we supported some of the in-person events during the Good Food Festival in cooperation with other organisations in Braunschweig (see also chapter 3.1.8.2) as well as an online presentation of research results related to our ongoing projects open for the public.

As a result of our networking activities in Africa, we were invited to contribute to a **webinar organised by the University of Mauritius** on September 29th, 2025. In cooperation with the Agri-Food Platform under the Circular Economy Roadmap, the event "Insights and Actions for a Sustainable Future" provided insights into important interventions implemented by different actors in Mauritius. Our coordinator Felicitas delivered an introductory speech and highlighted the importance to connect global policy with local action to realise the full potential of collaboration activities. We thank Prof. Dayawatee Goburdhun from the Faculty of Agriculture at the University of Mauritius for the kind invitation and her valuable effort!

In 2022, the Thünen Institute started a new online format, the **Thünen-Kolloquium**, to get into closer contact with the general public. Every first Thursday of each month, there is an online presentation related to selected topics of Thünen research results. Dates and topics are promoted in advance and beside Thünen staff members, interested public is also welcome to join the presentation and following discussion. This year, we integrated our 10th anniversary into the aim to raise public awareness for the IDAFLW by providing more insights into our activities on global and local levels on October 2nd, 2025. The Thünen research director, Stefan Lange, introduced his activities as Thünen representative at the Meeting of Agricultural Chief Scientists of G20 countries (MACS-G20). This activity is in line with the policy advice task to the German Ministry of Agriculture, Food and Regional Identity as one of the corresponding German Federal Research Institutes. The FLW topic was introduced in MACS-G20 in 2015 when the Collaboration Initiative FLW was founded. Stefan took over the lead until the coordinator was introduced. In her presentation, Felicitas completed the introduction of the beginnings with implemented international, national, regional and bilateral activities. The aim of the presentations was to connect one of the Thünen Institute's core tasks - representing German interests at a global level while providing policy advice at a national level - with the co-organisation of locally implemented awareness-raising events. The events aim to break down global policies into practical, local practices. Information in German are provided here.

3.2.4 Cooperation with the Swedish University of Agricultural Sciences[11]

In the following, you will find an update on joint capacity building activities, our research joint activities with the Swedish University of Agricultural Sciences (SLU) are summarised in chapter 3.3.4.

3.2.4.1 Capacity building and teaching

Since 2023, Dr Schneider has delivered a recurring online lecture in SLU's **master-level course *Food waste – current situation and future opportunities***. Her contribution broadens the course by providing global and European perspectives, including current monitoring approaches, policy instruments, and case studies from primary production to retail. The lecture is now a permanent and highly valued element of the course.

[11] This section was provided by Dr Mattias Eriksson and Dr Niina Sundin from Swedish University of Agricultural Sciences (SLU), Sweden.

3.2.4.2 Doctoral examination and scientific exchange

In 2024, Dr Yanne Goossens, a colleague from Thünen Institute, contributed to the defence of the SLU **doctoral thesis** ***Sustainability of food waste prevention through food consumption***, which assessed the climate impact of food overconsumption, the sustainability of surplus food redistribution, and plate waste prevention in school meals. The thesis demonstrated that overconsumption can account for up to 10 % of Sweden's food-related climate impact and that donation systems and school meal interventions can yield environmental, social and nutritional benefits. Dr Yanne Goossens served as an examiner, reinforcing scientific exchange between the institutions.

3.2.5 Collaboration with PhD candidate for reducing on-farm food loss in the context of the Global South[12]

Ifeoluwa Abulude is a social researcher and current PhD candidate at Justus Liebig University, Giessen, where his doctoral work focuses on **advancing sustainable food systems through evidence-based strategies for reducing on-farm food loss** in the context of the Global South. His PhD research is funded by the DAAD, supporting an in-depth examination of how farmers' practices, environmental stressors, institutional systems, and valuation processes interact to shape on-farm food losses in Nigeria. Using qualitative and mixed-methods approaches, he investigates pathways that can inform scalable, farmer-centred interventions.

Over the past five years, Ifeoluwa has built a strong research portfolio exploring agricultural sustainability, food loss, and the resilience of farming systems. His peer-reviewed publications include Nexus between Agricultural Challenges, Farming Practices, and On-Farm Losses of Selected Arable Crop Farmers in Nigeria (2025) and a systematic review, Food Loss Analysis in Nigeria (2024). His work highlights multidimensional causes of on-farm losses, ranging from pest pressure, climate variability, and low technology adoption to inadequate infrastructure and systemic institutional gaps.

Ife has presented his research to more than 5,000 stakeholders across Africa, Europe, and the UK, contributing to dialogues on agricultural transformation and food system policy. His expertise spans evidence synthesis, research design, mixed-methods analysis, and stakeholder engagement. He has successfully led qualitative projects from fieldwork to publication, contributed to high-impact journals, and secured over £100,000 in research funding. A recipient of the **Junior Scientist Award**, he remains committed to producing rigorous research that strengthens agri-food system resilience and informs policy and practice.

Figure 21 Ifeoluwa Abulude (left) (source: private), QR code connecting to Ife´s Linked In profile.

[12] This section was provided by Mr Ifeoluwa Abulude, PhD candidate at Justus Liebig University, Giessen, Germany.

3.2.6 Thinking out of the box – collaboration with art history

Inspired by the keynote provided by Prof. Ina Jessen at the ReTaste conference in 2024, our coordinator Felicitas facilitated the panel "Food as Art Material" at ReTaste 2025 in Athens, Greece, in cooperation with Prof. Jessen. The aim was to enhance collaboration between different research disciplines by focusing on art and cultural-historical perspectives on motivic representations of food in connection with its waste, as well as material-specific readings, uses, and techniques of food as an artistic material. The session call asked for inputs based on case studies from antiquity to the present day.

The session took place on September 24th, 2025, with three contributions and a very interesting discussion. Felicitas started with a historical review of approaches towards the inclusion of food and food waste in art, starting from Greek culture and the Roman Empire, highlighting the social meanings of power, status, and political statements, providing insights into wasted food items and explaining the tradition of memento mori ("reminder of death"). In the Middle Ages, decorative dishes were an important trend at high society's tables. During the First and Second World Wars, informative posters communicated the importance of efficient food use while banning food wastage.

Our colleague from the UK, Joanna Dong, highlighted the historical relevance of the Royal London Docks as the most important food hub from 1855 onwards until its closure in the early 1980s. In her artwork, Joanna refers to the impact of imported food such as coffee, tea, sugar cane, or cinnamon on British food choices, nutrition, and social interaction with the exporting countries back in those days. Her aim is to memorize the social context of the dock's working and residential area throughout the centuries with different types of food, e.g., to import fresh pineapples versus canned ones, which made a big difference in spoilage and inedible food waste (leaves and skin). The content is transmitted to the interested public by using ethnographic and participatory action research through cooking workshops, guided walking tours, knowledge sharing, and artistic creation processes.

The final presentation, provided by Prof. Ina Jessen, concluded the session by adding insights on "Food as a Socio-political Material in Contemporary Art". In her role as an art historian and curator of the Dieter Roth Foundation in Hamburg, Ina co-published a book on "Food as Art Material" (in German) already in 2024. She connected to the memento mori of the first presentation by showing inedible art pieces made of sugar and other food products, which are subject to deterioration and spoilage throughout their display in exhibitions. Various artists use food material to point out specific social trends or shortcomings in valuing food.

There was a lively discussion about what we can learn from history, how to use art as a reminder for sustainable behaviour towards food, and in general, and the role of art as a connecting discipline. It was a great session – thanks to all presenters and participants!

3.3 Topic 3: Stimulating research cooperation

3.3.1 Preventing stored product pests in Germany (AVoiD)[13]

The AVoiD project (Abwehr von Vorratsschädlingen in Deutschland), funded by the Federal Ministry of Agriculture, Food and Regional Identity (BMELH) as part of the Immediate Climate Protection Programme 2022, investigated environmentally friendly strategies for the prevention and early detection of pest infestations in stored plant products. In addition to studying climate-optimised (hermetic) storage techniques, a Germany-wide

[13] The following section was provided by Dr Cornel Adler, Camilla Albrecht, Dr Benjamin Fürstenau, Dr Christina Müller-Blenkle from Julius Kühn-Institute, Federal Research Centre for Cultivated Plants, Institute for Ecological Chemistry, Plant Analysis and Stored Product Protection, Berlin, Julia Büchner and Dr Jovanka Saltzmann from Julius Kühn-Institute, Klein-Machnow as well as Felicitas Schneider from Thünen Institute of Market Analysis.

monitoring system has been established, to collect data on the occurrence and spread of stored product insect pests inside storages and especially in the field, and to assess correlations with climatic and regional factors.

Hermetic storage is a method of storing grain safely under low-oxygen conditions. This suppresses insects, moulds and microorganisms that need oxygen to survive, helping to avoid losses. Our **experiments** at the Julius Kühn Institute in Berlin on hermetic storage showed that commercially available flexible hermetic plastic structures are suitable to suppress the development of insects that were present in the grain at the start of the storage period. These structures are also effective in treating severe insect infestations, reducing oxygen levels to below 3% within 6 to 8 weeks. Additional **field experiments** were carried out using silo bags on a farm (Figure 22), as well as hermetic silos installed both above- and underground (Figure 23).

Figure 22 Silo bags on a farm (left). Oxygen measurements were taken with a syringe through a septum (center). The oxygen permeability of the silo foil was tested in the lab (right) (Photos: C. Müller-Blenkle, JKI)

Figure 23 Underground silo during accomplishment of pressure test (left). Hermetic above ground silo (center) and installation of sensors for grain monitoring (right) (Photos: C. Müller-Blenkle, JKI)

The occurrence of stored product insect pests outside storage facilities poses an additional threat to stored plant products and possibly to crops. This represents a further challenge for farmers. Successful early detection therefore begins in the field and is an important future approach to stored product protection.

From 2023 to 2025, **pheromone-baited insect traps** were set up on 11 farms, including five organic farms, both inside the storage facilities and outside at adjacent fields (Figure 24, left). The traps were inspected monthly, and captured insects were identified (Figure 24, right) and counted in the laboratory based on their morphological characteristics.

Over the three-year monitoring period, a large number of different stored-product insect species were recorded (11 moth and 25 beetle species), in both indoor and outdoor areas, on conventionally and organically managed farms. In 2024 and 2025, the traps captured over twice as many individuals (>7,500 specimens each year) than in 2023. While most pest species were detected indoors, some species, most notably the thermophilic, non-

native Rhyzopertha dominica (lesser grain borer), occurred in very high numbers outdoors at nearly all study sites (Figure 25**Fehler! Verweisquelle konnte nicht gefunden werden.**). The beetle species Oryzaephilus surinamensis (sawtoothed grain beetle) and Sitophilus granarius (granary weevil) were also recorded outdoors, in some cases in high abundance.

To improve **early detection** of stored-product insects in storage facilities, especially in the field, and thus enable the timely implementation of appropriate countermeasures, it is recommended that a nationwide monitoring network must be continued and expanded. This should involve integrating existing monitoring structures, increasing the use of innovative (molecular/digital) methods and strengthening knowledge exchange between research and practice.

Figure 24 Left: Traps for flying and crawling insects in the field in Schleswig-Holstein (Photo: Benjamin Fürstenau, JKI). Right: Trapped Ephestia sp. in funnel traps (Photo: Camilla Albrecht, JKI)

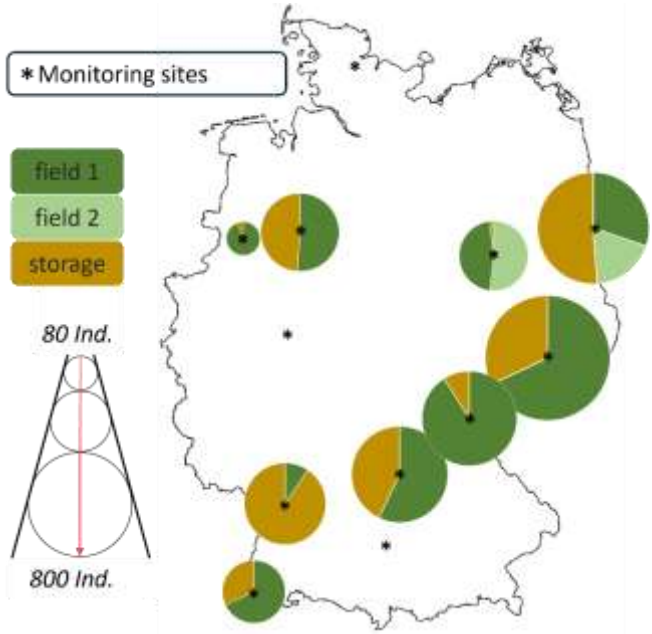

Figure 25 Schematic representation of the total number of catches of Rhyzopertha dominica at the different monitoring sites in Germany (2023-2025) (Photo: Camilla Albrecht JKI).

The comprehensive dataset compiled by the Julius Kühn Institute (JKI) on the **characteristics and costs of approximately 600 grain storage facilities** in Germany (Büchner & Saltzmann 2025) was analysed with regard to

both investment and operating expenses. The evaluation considered different storage capacities, structural properties, and equipment features of hermetic and non-hermetic storage systems. Based on this dataset, scenarios and damage assumptions were developed to assess the economic performance of storage systems under future climate conditions. The economic analysis shows that hermetic storage represents a competitively advantageous storage solution.

The environmental and social impacts of the different storage systems were also analysed. The implementation of the **Environmental Footprint 3.1** (adapted) revealed a clear advantage of the included hermetic storage options for the indicators of global warming potential and human toxicity, while the land use indicator was higher than that of the compared non-hermetic storage systems. It should be noted that data gaps were identified, for example, in the assessment of pesticide use and estimates of the impact of potential microplastics associated with the use of plastic hermetic bags. The **social assessment** indicates that short-term hermetic storage facilities perform better due to reduced exposure to pesticides and a lower risk of injuries. For a more detailed assessment, more detailed data from practical applications or advanced models are necessary.

The final report of RessortForschtKlima was published in German as a summary report including the findings of all 27 projects funded under the programme. Each project is presented within two to four pages here (in German). The estimated potential impact of the different project findings on the greenhouse gas emission reduction was published separately here (in German).

3.3.2 Cooperation within European project FOLOU[14]

In 2025, the FOLOU team continued its dedicated and impactful efforts to prevent and reduce **food loss at the primary production stage**, resulting in a wide range of achievements that emerged during the second half of the project.

In its third year, FOLOU focused on improving the understanding of Food Loss and how it is measured. Building on this foundation, the **analysis of food-loss drivers** progressed through comprehensive data curation and evaluation based on the literature review and interviews, with a strong emphasis on qualitative assessment. The team also developed a **sustainability tool to assess impacts** and support the **analysis of reduction strategies**. Significant progress was made in the area of social impact assessment, and a workshop was organised validating this novel framework and gathering expert feedback.

The **methodology** has been further tested, and several key details and boundaries have been refined across the various case studies in European regions, including mussel farming and cereal production in Italy, salmon production in Norway, meat and dairy farming in Ireland, and fruit and vegetables in Spain. New models and approaches have been demonstrated and validated for the different technologies, supported by additional field and data-collection campaigns aimed at improving measurement accuracy and efficiency. These efforts included **Uncrewed aerial vehicles** (UAV, drones) monitoring, blockchain-supported systems, multispectral cameras, satellite imaging, and a market-demand tool (Figure 26). These innovative tools have also been integrated into the methodology.

[14] The chapter was provided by Anna Sagrera Cots from BETA Technological Centre of Universitat de Vic, Spain and Valerie Verniers from Impact, Belgium.

Figure 26 Drone Dilepix (left) and Aerial Dilepix (right) (credit: Aurélien Yol).

Another outstanding achievement during this year is the FOLOU contribution and participation in **standardisation procedures**, with the official admission of the project in the ISO/TC 34/SC 20 WG2 (see also chapter 3.5.1.1) together with the elaboration of the **European Committee for Standardization (CEN) Workshop Agreement (CWA)** and a validation CEN Workshop on harmonised food loss measurement (see also chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**).

In addition, training and knowledge sharing have gained momentum in 2025. FOLOU launched **two free online courses**: *"Understanding Food Loss"* on 10 March and *"Measuring Food Loss: Implementing the FOLOU Methodology"* on 8 December. Workshops and stakeholder events in Vienna, Barcelona, Greece, Copenhagen and other regions provided participants with hands-on experience and perspectives of the project. Internal consortium discussions were conducted in person at the project meeting in July 2025 in Bologna (Figure 27).

Figure 27 Bologna Project Meeting in July 2025 (credit: FOLOU).

The FOLOU Twinning Programme kicked off in early 2025 as well, bringing together nine entities from seven regions across Europe, each contributing unique expertise to address food loss. A highlight of the programme was a two-day in-person workshop held in Barcelona on 4–5 November, featuring practical exercises and field demonstrations. Participants gained hands-on experience with key FOLOU outcomes and collaborated on planning food-loss reduction initiatives tailored to their own regions (Figure 28).

Figure 28 Twinning regions two-day in-person workshop in Barcelona (group pictures) (credit: FOLOU)

FOLOU also engaged with different stakeholders at international events such as RETASTE 2025 and collaborated with EU initiatives, including FOOD2030 and the EU Food Loss & Waste Hub, sharing knowledge and coordinating efforts. The project continues to strengthen its cooperation with the sister project WASTELESS and has established **new synergies with initiatives** such as WASTEWISE (see also chapter 3.3.7). FOLOU has also developed active connections with CHORIZO, ROSETTA, TONOWASTE, BREADCRUMB, SISTERS and others, broadening its collaborative network across Europe.

Undoubtedly, Felicitas Schneider made a significant contribution as a member of the FOLOU Scientific Board, attending project meetings, guiding key activities, and providing feedback on outputs such as the quantification manual and online courses. Her expertise strengthened the project's scientific quality and practical relevance — we are truly grateful to have her on board.

The year 2025 marked a turning point for FOLOU, as research and analysis were transformed into tangible, near-final outcomes, accompanied by strong efforts in knowledge transfer and stakeholder engagement to maximize the project's impact.

The public deliverables from the FOLOU project can now also be accessed on the FOLOU publication website. For more information about the project, its activities, and outputs, visit the website as well.

3.3.3 Review and Preview of the research cooperation with University of Tuscia, Italy[15]

Thünen Institute and University of Tuscia have been collaborating since 2020 in the context of food loss and waste research. The Thünen Institute is involved in the LOWINFOOD project by means of the availability of Felicitas Schneider to be a member of the External Advisory Board of the project. In this role, she supported the production of the **final deliverables** of LOWINFOOD, submitted in February 2025, including a set of recommendations for the diffusion of innovations against food loss and waste, which represented the final policy-related deliverable of the project (deliverable D6.10). Since November 2024, Felicitas Schneider is also acting as member of the External Advisory Board for the WASTEWISE Horizon project, where UNITUS has the role of WP leader (see also chapter 3.3.7). Here, she will support the definition of scenarios of food loss and waste reduction, in the context of WP3.

A methodology for **assessing food loss in the post-harvest phase** of the supply chain was developed in 2022-2023 following a period involving the mobility of PhD students between University of Tuscia and Thünen Institute. This methodology focuses on quantifying food downgraded due to private quality standards and downgraded to

[15] This section was kindly prepared by Dr Clara Cicatiello and Dr Roberta Pietrangeli from University Tuscia, Italy.

"suboptimal products"; a case study on carrots is considered in this study, with the field data collection performed at the warehouse of a Producer Organisation. The findings are published in a scientific article and form a key component of a PhD dissertation, which was defended in June 2025:

Part of this work was also presented in the ELLS Scientific Student Conference 2024, taking place in November 2024 in Wageningen, as part of a **Master thesis in Food science and technology**. The title of the contribution presented at the conference is "Market acceptance and trade channels of suboptimal fruits and vegetables: a case study on carrots".

In the same stream of research, another Master thesis in Food and nutrition was developed focusing on **redistribution of surplus food** to charities. This work is conducted in collaboration with the Municipality of Viterbo and it allowed to establish a procedure allowing any supermarket or food company of the area to donate surplus on a daily basis, at the same time keeping the traceability of the product from the donor up to the charities and the final users. The title of the study is "Organizzazione di una Filiera Solidale per il recupero delle eccedenze alimentari nel Comune di Viterbo" ("Organization of a solidarity-based supply chain for the redistribution of surplus food in the Municipality of Viterbo") and the thesis was defended in October 2024. The project was active until May 2025, with a final event of dissemination of results.

This joint effort brought together UNITUS and representatives of Thünen Institute at events dedicated to food loss and waste, including: the RETASTE conference in Athens, September 2025; the 18th meeting of the EU Food Loss and Waste platform, where representatives of both organisations were participating as speakers, and continuously interacting in the discussion.

3.3.4 Review and preview from the Swedish University of Agricultural Sciences[16]

Our joint activities in relation to Awareness raising and capacity building can be found in section 3.2.4 of this report. In the following, our joint research activities are summarised.

3.3.4.1 Joint publications: retail food waste and school meals

Our collaboration with Dr Felicitas Schneider and the Thünen Institute builds on a long-standing shared interest in food waste prevention along the supply chain. In 2020, Dr Schneider and Associate Professor Mattias Eriksson co-authored the chapter *Food Waste (and Loss) at the Retail Level* in the Routledge Handbook of Food Waste, synthesising evidence on the **magnitude and composition of retail food waste**, major waste fractions, and key drivers, as well as prevention strategies such as improved forecasting, logistics and donation practices.

In 2024, this cooperation continued through the peer-reviewed article *From plate to waste: Composition of school meal waste and associated carbon footprint and nutrient loss* in Resources, Conservation and Recycling. **Plate waste** had a climate impact of 1.0 kg CO_2e/kg; staple foods dominated by mass, while meat accounted for most of the embedded emissions. Plate waste contained substantial nutritional value (4.8 MJ/kg; 57 g protein/kg; 19 g fibre/kg). The study highlights the need for targeted prevention strategies in school catering. Ongoing SLU research is exploring behaviour-based interventions for the 20% of students responsible for 60% of total plate waste.

[16] This section was provided by Dr Mattias Eriksson and Dr Niina Sundin from Swedish University of Agricultural Sciences (SLU), Sweden.

3.3.4.2 Ongoing and future FLW collaboration

SLU participates as a core partner of the Horizon Europe project WASTEWISE (2024–2028). Dr Schneider contributes through the External Advisory Board, linking project outcomes to international policy processes. More details can be found in chapter 3.3.7.

SLU intends to continue the teaching cooperation and further develop the annual guest lecture.

From an SLU perspective, our cooperation with Thünen has strengthened the link between research on school meals, retail food waste and surplus food redistribution, and international discussions on monitoring, standardisation and prevention. We look forward to continued collaboration in support of achieving SDG 12.3.

3.3.5 PhD on food waste in households and street markets in Zimbabwe -2025 Update [17]

In 2025, the PhD project on **food waste in households and street markets in Zimbabwe** reached its final phase. Three manuscripts based on the main research results were completed during the year and submitted to peer-reviewed journals, where they are currently under review. On 19 September 2025, Sharon successfully defended her PhD thesis at the University of Göttingen, receiving the grade *magna cum laude* (Figure 29). This marked the successful end of a multi-year research collaboration with the Thünen Institute, which provided critical scientific support throughout the project and enabled the generation of robust evidence on food waste patterns in low-income urban communities in Zimbabwe.

Figure 29 Sharon Mada and her doctoral supervisor, Prof Martin Banse, head of Thünen Institute of Market Analysis, and Felicitas, co-supervisor, celebrating the successful defence of the PhD at the University of Göttingen (Credit: Hiwot Ayele).

Following the defence, the findings of the PhD work were shared with researchers, policymakers, and practitioners from across Africa who participated in the **Regional Workshop on Food Loss and Waste** in Pretoria (see also chapter 3.2.1). Sharon presented a poster on food waste at street markets in Zimbabwe, highlighting the causes, characteristics, and composition of the waste generated during the study. In addition, she served as a panellist in a session on food waste in urban settings, delivering a presentation titled *Food Waste in Urban Low-Income Households and Street Markets: Perspectives from Harare, Zimbabwe* (Figure 30). Together with experts from Zambia, Kenya, and South Africa, she contributed to a discussion on the drivers and trends of food waste in African cities and the initiatives underway to address them.

[17] This chapter was written by Dr. Sharon Yeukai Mada from Thünen Institute of Market Analysis, Germany.

Figure 30 Sharon presenting her findings on street markets and household food waste at the regional Workshop of FLW in Sub-Saharan Africa in Pretoria (Credit: Chanjief Chandrakumar).

At the same workshop, Sharon also led a **breakout session** titled *Bridging Research and Action: Strengthening Early-Career Collaboration on Food Loss and Waste in Africa*. This session brought together Bachelor's, Master's, and PhD students, as well as early-career researchers from various African countries, to exchange experiences, challenges, and ideas on improving the impact of food loss and waste research. A key outcome of the session was a shared commitment to establishing an African early-career research network on food loss and waste, aimed at fostering collaboration, sharing of knowledge, joint research activities, and increasing the visibility of African perspectives in global debates on food loss and waste (see also chapter 3.2.2).

The food loss and waste workshop in Pretoria provided a highly effective platform for disseminating the findings of the PhD project and initiated a new phase of collaboration through the emerging early-career network. This outcome aligns strongly with the goals of the Collaboration Initiative on Food Loss and Waste, illustrating how research conducted within the initiative directly contributes to strengthened cooperation, knowledge exchange, and collective action to reduce food loss and waste across the African continent.

3.3.6 Food-Chain Analysis Network (FCAN) organised by the Organisation for Economic Co-operation and Development (OECD)

The OECD Food Chain Analysis Network (FCAN) targets selected topics related to environmental sustainability and food security and nutrition. The experts contributing to this group are nominated by OECD countries to share insights and best practices on the specific food system issues. The FCAN outputs are valuable inputs towards the work of the OECD while also fostering peer learning among OECD countries.

In early 2025, the OECD published the Paper No 214 "Beyond Food Loss and Waste Reduction Targets - Translating Reduction Ambitions into Policy outcomes". Three main results have to be highlighted: (a) policy ambition and promoting stakeholder engagement should be strengthened in the member countries, (b) progress in reducing FLW should be monitored and policy instruments evaluated, and (c) international

cooperation should be enhanced and fostered. The report was the first of a series related to food loss and waste topics such as Papers No. 222, a policy brief as well as a blog post.

A **new project**, Better Data and Evaluation Practices to Strengthen Food Loss and Waste Policies, was developed by the OECD Secretariat for 2025-2026. The aim is to support OECD member countries in achieving the objectives identified in Paper No 214. The project focuses first on **improving the quality and the international comparability of FLW data** and second **developing international guidance** on how to conduct evaluations of FLW reduction strategies.

Thünen Institute was involved in two different sessions at the first meeting in November 2025: Manuela Kuntscher introduced the methodology of the German Pact (see chapter 3.1.8.1) online to contribute to the session´s question "How to evaluate shifts in the practices of households and stakeholders?", while the coordinator of the Collaboration Initiative FLW provided insights into our activities and the "role of international collaboration in the evaluation of FLW strategies". The meeting also offered to (re)connect to colleagues from Belgium, Brazil (see chapter 3.1.4), Canada, European Union, Finland, France, Hungary, Switzerland, Sweden, The Netherlands, and many others. We gained **practical experience** during an excursion to a branch of a large food retailer. The retailer presented several measures to prevent food waste at various stations within the store, some of which were unnoticed by customers, while others were directly communicated to them. Among other things, we gained insight into the adapted marketing standards and strategies for fruits and vegetables, internal processes for monitoring inventory on shelves, the sale of products near their expiration dates, cooperation with social institutions for food donations, and the necessary measures to obtain the French "Antigaspi" label[18].

We also look forward to continuing to contribute our expertise to the committee in the future. A coordinated approach to identifying indicators will significantly improve the usability of data and the assessment of the effects of specific measures.

3.3.7 Collaboration with the European project WASTEWISE[19]

Launched on 1 November 2024 and running for 42 months, WASTEWISE is an EU-funded Research and Innovation Action (EU-funding €3.4M) dedicated to designing realistic and effective pathways for food waste (FW) prevention and reduction. Its core ambition is to deliver **co-benefits for climate mitigation, biodiversity protection, and the prevention of nutritional losses**, while also accounting for socio-economic impacts and circularity through a holistic, multi-actor approach.

Although WASTEWISE is still in its early stages, the consortium has already built a **strong analytical foundation**. First, WASTEWISE has focused on clarifying the current FW landscape by collecting and harmonising existing data and creating a detailed product-level database aligned with the EU definition of food waste. Furthermore, nearly all EU Member States (26) have been engaged through interviews and questionnaires to better understand how they collect and report FW data to Eurostat, helping the team uncover methodological differences and identify possibilities for more detailed FW breakdowns.

Second, the project has begun tackling the challenge of **connecting fragmented, low-granularity FW data with environmental and nutritional datasets**. Progress includes the development of systematic models and AI-supported tools to match data across systems. The team has also reviewed state-of-the-art knowledge on rebound effects and explored emerging methods for assessing biodiversity impacts linked to food waste.

[18] You can find more information on that label here in French.

[19] This section was provided by Dr Hanna Hartikainen from Natural Resources Institute Finland (LUKE) who serves as scientific coordinator of WASTEWISE project.

Third, WASTEWISE has **analysed existing FW-related policies** related to MS reduction targets examining how food waste is embedded within broader environmental frameworks.

Together, these achievements position WASTEWISE to advance its next steps: building robust, holistic FW reduction scenarios and generating actionable policy guidance to support Europe's transition toward a more sustainable, circular, and resource-efficient food system.

The Collaboration Initiative FLW coordinator Felicitas has been included into WASTEWISE as member of the External Advisory Board.

3.3.8 Research cooperation with New Zealand

3.3.8.1 Collaboration with New Zealand – the AgriDENZ project

The Alliance for the Climate – Dialogue on climate and agriculture between New Zealand and Germany, short AgriDENZ, started in April 2024. The aim is to **facilitate mutual understanding**, **cooperation related to politics**, **science and technology** while **transforming agriculture and food systems** under climate change conditions. The project team is built from Thünen Institute and New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC). The funding is provided by the German Ministry of Agriculture, Food and Regional Identity (BMELH) and the New Zealand Ministry for Primary Industries (MPI).

The project consists of three pillars:

a. Scientific exchange
b. Policy Dialogue
c. Third Party Countries

The Collaboration Initiative FLW contributes to pillar a) and c). The **scientific exchange** was one of our largest activities in 2025. Our coordinator Felicitas stayed in New Zealand from March 25th to April 10th, 2025. More information can be found in chapter 3.3.8.2. As a result, we were also acting as host for an incoming researcher which is further summarised in chapter 3.3.8.3.

Our FLW workshops support the **knowledge exchange with Third-Party Countries** and facilitate network building and cooperation as part of pillar c (see also chapters 3.2.1 and **Fehler! Verweisquelle konnte nicht gefunden werden.**). The project will be completed by end of 2026.

3.3.8.2 Research stay in New Zealand

The travel aimed to meet different New Zealand stakeholders active in FLW policy, research, awareness building, prevention, upcycling, valorisation, processing, recycling etc. for exchanging knowledge, experiences and identifying cooperation opportunities. Further it provided the opportunity for the German AgriDENZ Topic lead "Food Loss and Waste" to meet with the relevant people from the New Zealand AgriDENZ team.

In total, our coordinator conducted **22 meetings with stakeholders** along the food supply chain in different regions of New Zealand, including Ministries, farmers, non-governmental organisations, companies, research groups, food hubs, associations and others. It was an inspiration to visit the different sites and engage in multi-actor discussions on topics such as the redistribution of surplus food, the inclusion of indigenous traditions in prevention strategies, funding schemes for translating innovation into marketable products, extending the shelf-life of perishables at post-harvest stages, upcycling by-products from the food industry, breeding dung beetles, low-cost and no-turn composting alternatives on farms, insect bioconversion, anaerobic digestion of food waste, business-to-consumer apps, knowledge hubs, multi-indicator models, and many others.

Thank you to our colleagues in New Zealand from the AgriDENZ team (especially Matthew Barnett) and beyond as well as all our hosts who supported the preparation and implementation of the research stay on-site!

3.3.8.3 Collaboration with Food Waste Innovation at the University of Otago[20]

In 2023, **Food Waste Innovation Otago** was contracted by the New Zealand Ministry for the Environment to measure, for the first time, food loss and waste across the New Zealand food supply chain. The study was completed in 2025 and the report released in November 2025. The team, led by Professor Sheila Skeaff, estimated that 1.2 million tonnes of food is lost or wasted (237 kg/per capita), with a further 2.3 million tonnes, which also left the food supply chain, redistributed (i.e., food rescue), diverted (i.e., animal feed) or repurposed (i.e., bioprocessing or upcycled). In July 2025, Professor Skeaff provided an overview of the **baseline project** at the Thünen Institute in Germany and FAO Headquarters in Italy (Figure 31, left). FAO staff were encouraging of the many small studies undertaken by **postgraduate students** associated with Food Waste Innovation Otago that contributed to the report, for example MSc projects measuring food waste in supermarkets, food waste at University of Otago residential colleges, and food waste at local schools taking part in the national free school lunch programme. Currently there is a PhD student undertaking a study that aims to reduce food waste in residential aged care facilities by 10%, which has included the development of a food reduction toolkit that will be distributed across aged care facilities in New Zealand in 2026. On the 29 September 2025, International Day of Awareness of Food Loss and Waste, Food Waste Innovation hosted **"Save the Plate"**, a cooking challenge involving teams of University of Otago staff and students creating delicious dishes using rescued or short-dated food (Figure 31, right).

Figure 31 Prof Skeaff´s visit to FAO Rome (left) (credit: Food Waste Innovation), International Day of Awareness of FLW activities by Food Waste Innovation (right) (credit: Food Waste Innovation)

[20] This section was provided by Prof Sheila Skeaff from the Food Waste Innovation at the University of Otago, New Zealand.

3.3.9 Research on Leafy Vegetable Waste and Loss in Iran: Current Initiatives and Future Research Agenda - 2025 update[21]

Leafy vegetables are an essential part of the Iranian diet, with approximately 70% consumed cooked - mainly in stews, soups, or as a condiment - and 30% consumed fresh as side dishes or desserts. However, due to their perishable nature, short shelf life, and supply chain inefficiencies, a large amount of these vegetables is wasted. Until 2023, there was little data in Iran on the extent of waste, where it occurred or the factors that caused this waste.

In 2023, my PhD dissertation, conducted in close collaboration with Dr Felicitas Schneider, modelled the extent and causes of these wastes in Kermanshah province using **system dynamics modelling**. This study found that approximately 39% of total leafy vegetable production, equivalent to about 31,000 tonnes per year, is wasted across the supply chain. Based on the results, the highest amount of waste occurred at the production (15.8%, 12,500 tonnes), household consumption (15.5%, 12,300 tonnes), and market (7.2%, 5,700 tonnes) stages, respectively. The study results showed that the **development of leafy vegetable processing industries** through **contract farming models** was the most effective strategy to reduce waste across the supply chain. This success was attributed to better quality control through **cold chain marketing, minimizing market oversupply** associated with demand-driven production, and **reusing edible vegetable parts** that are typically discarded by consumers. Other suggested measures included improving household **purchasing planning**, **managing biological stress** on farms, and **upgrading packaging** and cold chain infrastructure in markets.

Despite these promising interventions, **several barriers** prevent their implementation in Iran. These include inadequate processing technologies and infrastructure, inadequate legal frameworks for the establishment of contract farming, cultural preferences for fresh vegetables, and health concerns. In recent years, the Iranian Ministry of Agriculture has generally prioritized strategies to improve farmers' access to quality seeds and inputs, to support policies to complete value chains and marketing, and to set up a monitoring system for crops. However, initiatives to reduce leafy vegetable waste require further research and action. To this end, we have proposed a **research agenda** to design frameworks for processing-sector growth through contract-based farming and to identify factors that increase consumer willingness to consume processed vegetables, thereby stimulating the demand for processed leafy vegetables.

3.4 Topic 4: Matching ideas & funding

In 2025, we submitted a number of cooperation ideas as proposals for specific (inter)national calls. The final decisions are ongoing. In case you have ideas for cooperation, please do not hesitate to contact our coordinator Felicitas in order to select a corresponding funding scheme.

3.5 Topic 5: Fostering cooperation at implementation level

3.5.1 Cooperation with European and international standardisation organisations

3.5.1.1 ISO/TC 34/SC 20 Food Loss and Waste

The work of the International Organisation for Standardisation subcommittee ISO/TC 34/SC 20 Food Loss and Waste was further developed during 2025. After a first review by national mirror committees in 2024, the draft of the ISO/CD 20001 "Food loss and waste management system — Requirements for the minimization of food

[21] This subchapter was provided by Dr Mostafa Moradi, post-doc from University of Tehran, Iran.

loss and waste across the food value chain" was discussed during the in-person meeting of the subcommittee working group 1 members in March 2025 in Sydney, Australia.

In parallel, working group 2 started to work on a supporting document called "Quantification, measurement, monitoring and reporting methods for food loss and waste". This guide (ISO/AWI TS 20008) aims to support organizations in analysing FLW occurrences, quantities, and hotspots in line with the organization's policies and objectives, identifying the root causes of FLW hotspots, monitoring and reporting quantities, assessing progress over time, and verifying the efficiency of FLW reduction actions. Additionally, working group 3 made progress on the preparation of the "Requirements for bodies providing audit and certification of food loss/waste management systems" (ISO/AWI 20020). This document aims to specify the requirements for audit and certification that comply with the requirements given in ISO 20001.

Our generous host, Australian Standards, provided perfect framework conditions for a constructive discussion during the long discussions. Thank you so much for the hospitality! Comments that required more detailed work to be considered were assigned to action item groups until summer 2025.

The revised draft was then reviewed in a second round by additional national standardization committees. The comprehensive list of comments was collected and will be further discussed in the next in-person meeting in Toronto, Canada, in March 2026.

Figure 32 Group photo of subcomittee members attending the meeting in Sydney/Australia in person (credit: Australian Standards)

In Germany, the official DIN working group serving as a national mirror group is "NA 057-02-02 AA food safety – management systems". Here all information from the ISO group is discussed and feedback on behalf of Germany will be transmitted through the German delegation back to ISO. The Collaboration Initiative coordinator, Felicitas, is a member of the DIN mirror group as well as the head of the German delegation related to the ISO subcommittee, including working group 1 and 2.

3.5.1.2 European Committee for Standardization (CEN)

As a result of the comprehensive work in the FOLOU project (see also chapter 3.3.2), additional standardization work was initiated by the end of 2025. In December 2025, the CEN Workshop "Food loss quantification in primary production" was organized on behalf of the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC) by the Spanish Association for Standardization (UNE). The aim was to achieve a **Workshop Agreement (CWA).** Our coordinator, Felicitas, contributed her expertise on the topic. The final document is expected to be published in early 2026.

3.5.2 Cooperation with United Nations Environment Program (UNEP)

Our fruitful cooperation with UNEP was continued in relation to our annual FLW workshop, this time in South Africa. We very much appreciate the **workshop participation** of Ms Meseret Teklemariam Zemedkun representing UNEP South Africa. Her contribution to the opening session was well received by the participants (also see chapter 3.2.1).

3.5.3 Collaboration with The Sustainable Development Solutions Network (SDSN)[22]

The Sustainable Development Solutions Network (SDSN) is the **world's largest knowledge network** for the Sustainable Development Goals, working under the auspices of the UN Secretary-General to mobilise universities, think tanks, and research institutions to deliver science-based solutions at the intersection of policy and practice. Within SDSN, the Food, Environment, Land and Development (FELD) Programme addresses policy and implementation barriers to transform food and land-use systems, including food loss and waste (FLW) issues, through systematic analysis, action tracking, and country engagement.

SDSN is a member of the Global Action Drive (GAD), a coalition of internationally active Non-Governmental Organisations (NGOs) working to accelerate regional and national action on FLW. GAD seeks to **translate global commitments into concrete policy action** by engaging key stakeholders, advancing evidence-based policy solutions, catalysing targeted initiatives, increasing awareness through coordinated communications, and monitoring and publicising progress. In 2025, the FELD team contributed its expertise in FLW policy analysis on Nationally Determined Contributions (NDCs) and the publication of *A Practical Guide to Embedding "Food Loss and Waste" in Climate Policy* (GAD, 2025), which outlines four key calls to action in order to accelerate FLW reduction and prevention by leveraging national climate action plans, including NDCs.

In parallel, the SDSN FELD Programme presented to the 9th Regional FLW Workshop in Sub-Sahara Africa in 2025 (see also chapter 3.2.1), providing **organisational support** and facilitation of **two policy-focused breakout sessions**. The team led a session, *Science-policy interface: Experiences and lessons learned in the FLW space*, that identified governance and institutional challenges, including fragmented stakeholder expectations, inconsistent FLW terminology, data and measurement gaps, and the need for stronger collaboration between science, civil society, and policymakers. Another session, *Strategising policy action on Food Loss and Waste,* also explored practical pathways for policy influence, such as assessing political and policy contexts, identifying government champions, and strengthening partnerships through collaborative "triangulation" approaches among key stakeholders.

Building on these contributions, SDSN will continue to advance FLW action by fostering partnerships, supporting evidence-based policymaking, and promoting collaborative solutions across governments, civil society, and the scientific community.

[22] This section was provided by Ms Kotone Yamamoto from The Sustainable Development Solutions Network (SDSN).

3.5.4 Cooperation with the African Union

As Food Loss and Waste prevention can contribute to foster resilient and sustainable food systems, reduce hunger, tackle decreasing soil carbon content and facilitate smallholder farmers income, the cooperation between the Collaboration Initiative Food Loss and Waste and the African Union started end of 2023. The framework is provided by the "Agricultural policy dialogue between the African Union and Germany to strengthen the resilience of food systems in Africa". In 2025, their staff members supported the **organisation of the Regional Workshop FLW in South Africa** with their networks and contacts (see also chapter 3.2.1).

3.5.5 Collaboration with Food and Agriculture Organisation Chile[23]

Food Loss and Waste (FLW) in Latin America and the Caribbean (LAC) constitutes a structural barrier to sustainable development, directly hindering progress towards food security, climate action and economic prosperity. Addressing this problem is imperative to achieving the 12.3 target of the Sustainable Development Goals (SDGs), which requires halving food waste and reducing losses along the entire supply chain by 2030. For the **Food and Agriculture Organization of the United Nations (FAO)** to make strategic partnerships that help implement specific actions that accelerate the FLW mitigation, is crucial. Therefore, when the Thünen Institute invited us as **co-coordinators of the Regional Workshop in Brasilia-2024** (see also Annual report 2024, chapter 3.2.1), under the framework of the Collaborative Initiative on Food Loss and Waste launched at the MACS-G20, together with leading organizations such as EMBRAPA, UNEP, Brazil's Ministry of Social Development, New Zealand's Global Research Alliance (GRA), Argentina's Instituto Nacional de Tecnología Agropecuaria (INTA) and others, we could not be left out.

Figure 33 Group photo of the participants of the FLW workshop in 2024 in Brazil with the FAO Chile representative in the first row as second left (credit: Ministry of Social Development)

[23] This section was provided by Ms Nicol Barahona Carvajal, Senior Specialist in FLW Policies at FAO Latin America and the Caribbean region (until end of 2025).

This event was a strategic step to bring together key actors from 17 countries in the LAC region (Figure 33), which turned out to be a catalyst for diagnosing the current state of FLW in the region, sharing knowledge and best practices, lay the foundations for a more solid and structured future cooperation by proposing a clear and actionable roadmap.

Some of the opportunities we were able to envision from this event, and how FAO can contribute to its agenda, are:

- Investment in **infrastructure and technologies**, as well as **innovations** to reduce losses, is identified as a key opportunity. In addition, efforts may be made to improve or increase access to credit for producers and to have an international fund addressing the FLW issue. FAO can provide technical support for linking up with different actors and seeking funding for projects on the FLW agenda. On the other hand, FAO is developing a 2026 baseline of innovations and technologies that are being applied in the region to combat FLW.
- The FLW prevention and reduction must go hand in hand with the **mitigation of environmental impacts**, which involves improving food transport logistics with **efficient and sustainable energies**, and incorporating **circular strategies** to make the most of food.
- **Cooperation networks in LAC** should be strengthened, as it acts as a **safety net for the agri-food system**, instead of each country trying to build its own parachute from scratch (infrastructure, legislation, technology), cooperation allows everyone to share the same design, the most successful practices and expert knowledge, thus ensuring a safer and more efficient landing for all in the goal of reducing FLW. This Regional Workshop has resulted in generating collaborative networks between different actors and the strengthening of networking among participants, facilitating collaboration on future projects with technical support from FAO.

3.6 Recent literature from Initiative partners and other sources

In this section, we introduce selected new literature related to FLW which was published by members of our network in alphabetical order. If you would like to see your publication listed here, too, please give us a hint!

Publications:

- Abulude I. (2025) Nexus between agricultural challenges, farming practices, and on-farm losses of selected arable crop farmers in Nigeria: a valuation constellation approach to advancing sustainable food systems. Front. Sustain. Food Syst. 9:1704772, doi: 10.3389/fsufs.2025.1704772.
- Abulude I., Wahlen S. (2024) Food loss analysis in Nigeria: A systematic literature review. Environmental Challenges 17 (2024) 101027, https://doi.org/10.1016/j.envc.2024.101027.
- ADEME (2025) A decade of reducing food waste in the grocery retail sector: Analysis of progress to date. ADEME Responsible Consumption Department, October 2025, 23 pages, available in English and French at https://librairie.ademe.fr/
- APEC (2025) Survey and Workshop on Preventing and Reducing Food Loss and Waste (FLW) to Achieve Sustainable Food Systems in APEC Economies. Policy Partnership on Food Security (PPFS) Report, January 2025, 119 pages.
- Büchner J., Saltzmann J. (2025) Datensatz: Kosten der Getreidelagerung in Deutschland (Data set: Costs of grain storage in Germany). https://doi.org/10.5073/20251029-163644-0.
- CEMAS (2025) Capacity building for Food Loss and Waste Prevention and Reduction in cities. Report in collaboration with EUFIC, Spain, 60 pages, ISBN: 978-84-9089-554-2.
- Fernández-Zamudio M.A., Barco H., Pina T. (2025) ¿Por qué las pérdidas y el desperdicio alimentario son mucho más que un biorresiduo? In: Badia Valiente J.D., Pilar Serra Añó M. (Eds.) Residuos ¿Un planeta

de usar y tirar? Universitat de València, Vicerrectorado de Sostenibilidad, Cooperación y vida Saludable, Valencia, 2025, Chapter 14, 203-214, ISBN PDF: 978-84-9133-823-9.

- Goossens Y., Schmidt T.G. (2025) Food loss and waste in the environmental assessment of diets. Cleaner Food Systems, https://doi.org/10.1016/j.clfs.2025.100011
- Jessen I., Senkpiel F. [Hrsg.] (2024) Lexikon der Lebensmittel als Kunstmaterial [Von Apfel bis Zucker]. Hatje Cantz Verlag GmbH, Berlin, 138 Seiten, ISBN 978-3-7757-5732-4 (in German).
- Jia X., Schneider F., Ning M., Ding J. (2024) Aesthetic grading causes food losses without financially benefiting farmers: Micro-level evidence from China's fresh apple supply chain. Waste Management & Research 2025, Vol. 43(6) 957–968, https://doi.org/10.1177/0734242X241280097.
- Kunszabo A., Kasza G., Szakos D., Olah J., Lakner Z., Popp J., Satya Nugraha W., Dorko A., Süth M. (2025) Household food waste - consumer intentions and capacities for further reduction considering different food waste categories. Sustainable Chemistry and Pharmacy 48 (2025) 102209, https://doi.org/10.1016/j.scp.2025.102209.
- Kuntscher M., Schmidt T.G. (2025) Pakt gegen Lebensmittelverschwendung im Groß- und Einzelhandel: Ergebnisbericht zum Monitoring 2024. Thünen Working Paper 276. Johann Heinrich von Thünen-Institut, Braunschweig, https://doi.org/10.3220/253-2025-214 (in German with English summary).
- Mada S.Y. (2025) An Analysis of the Determinants of Food Waste in Low-Income Communities: The Case of Hatcliffe, Harare, Zimbabwe. Doctoral thesis Georg-August-Universität Göttingen, Göttingen, July 2025, 260 pages, https://ediss.uni-goettingen.de/handle/11858/16283.
- Mada S.Y., Schneider F. (2026) An Analysis of the Determinants of Food Waste in Low-Income Communities: The Case of Hatcliffe, Zimbabwe. Thünen Project brief 2026/05a, 2 pages, DOI: 10.3220/253-2026-14.
- Mesiranta N., Mattila M., Eriksson M., Blasi E., Sjölund A., Bartek L., Pietrangeli R., Nasso M., Cicatiello C., Sulankivi S., Närvänen E. (2025) Reducing bread surplus and waste at the bakery-retail interface in three European countries. Cleaner Waste Systems 12 (2025) 100433, https://doi.org/10.1016/j.clwas.2025.100433.
- Michiels F., Stalmans A., Goossens Y., Geeraerd A. (2025) Beyond intuition: How consumer choices on packaging and valorization can reduce apple food waste and their impact. Cleaner Waste Systems 12 (2025) 100424, https://doi.org/10.1016/j.clwas.2025.100424.
- Ministry of Social Development and Fight Against Hunger (2025) Reducing Food Losses and Waste in Brazil - II Intersectoral Strategy for Reducing Food Losses and Waste. English Version, 1st edition, Brasilia, September 2025, 78 pages, ISBN: 978-65-01-36479-7.
- Nenert C., González González D., Giner C., Gay S.H., Elasri A. (2025) The potential effects of reducing food loss and waste: Impacts on the triple challenge and costbenefits analysis. OECD Food, Agriculture and Fisheries Papers No. 222, May 2025, 29 pages, https://dx.doi.org/10.1787/bd2aedc6-en.
- OECD (2025) Achieving Food Loss and Waste Reduction: From Targets to Action. OECD Policy Brief, November 12, 2025, 5 pages.
- OECD (2025) Beyond Food Loss and Waste Reduction Targets - Translating Reduction Ambitions into Policy outcomes. OECD Food, Agriculture and Fisheries Paper No 214, January 2025, 60 pages, https://doi.org/10.1787/59cf6c95-en.
- Porpino G., Bocchi C.P. (2025) Ação climática: redução de perdas e desperdícios de alimentos como estratégia para ampliar o acesso a alimentos saudáveis e reduzir a emissão de gases de efeito estufa (Climate action: reducing food loss and waste as a strategy to expand access to healthy food and reduce greenhouse gas emissions). In: Márcia Muchagata [Ed.] Futuro na mesa: a política de segurança alimentar e nutricional frente à emergência climática. Brasília: Ministério do Desenvolvimento e Assistência Social, Família e Combate à Fome; Zabelê Comunicação: 2025, 228 p.; il., p. 88-103, ISBN: 978-65-998251-2-5.

- Russo C., Cacchiarell L., Cicatiello C., Galli F., Carbone A. (2025) Unfair trading practices in the food chain. In: Encyclopedia of Agriculture and Food Systems, 3rd Edition, https://doi.org/10.1016/B978-0-443-15976-3.00133-1.
- Silayo D.M., Bongole A.J., Kulwijila M. (2025) Analysing disparities between household food waste metrics and their socioeconomic drivers in Chamwino District, Tanzania. Waste Management Bulletin 3 (2025) 100206, https://doi.org/10.1016/j.wmb.2025.100206.
- Silayo D.M., Bongole A.J., Kulwijila M. (2025) Deciphering the impact of food waste on household food security in Dodoma, Tanzania. Cleaner Food Systems 1 (2025) 100002, https://doi.org/10.1016/j.clfs.2025.100002.
- Skeaff S., Thorsen M., Skeaff M., Bremer P., Mirosa M. (2025) Aotearoa New Zealand Baseline Food Loss and Waste Project. Final report, November 2025, University of Otago, Dunedin, 43 pages.
- Witte L., Herzberg R., Richartz P.C., Schneider F., Hasler M. (2025) Learnings from Food Waste Dynamics: During the COVID-19 Pandemic: An Evaluation of Representative Diary Studies in German Households. Resources 2025, 14, 173. https://doi.org/10.3390/resources14110173.

Selected webinars, podcasts, open access project data sets and other recordings from cooperation partners:

- The FAO Virtual Learning Center (VLC) of the Regional Office for Europe and Central Asia (REU) published a **Virtual Learning Course** on Tackling Food Loss and Waste Throughout the Value Chain, in English.
- The European FOLOU project (see also chapter 3.3.2) has released a **free online course** on **Understanding Food Loss**. Designed for anyone interested in learning more about food loss, it will be particularly useful for the primary production sector, researchers, public administrators, policymakers and non-governmental organisations. The course is available here. You will need to set up a FutureLearn account to access the course. A second course on **Measuring Food Loss** was published here.
- A respiratory of the WASTEWISE project **open access data** is located here.
- CEMAS short documentary titled "València: The City That Fuels Sustainable Change".
- The **Thünen Podcast** (in German) on social challenges in relation with food loss and waste is available here.
- The video produced by the South African Broadcasting Corporation (SABC) about the **Collaboration Initiative´s Regional FLW workshop** in South Africa can be found here.
- OECD organised in collaboration with Brazil, France and Japan an OECD COP30 Virtual Pavilion event entitled **Food loss and waste: From ambitions to outcomes.** The event recording is available here.

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