GREASE Project

WP2 – Exploring Food in Green and Sustainable Approaches

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Executive summary

This desk research report summarises key green and sustainable approaches to food in the Netherlands, with an emphasis on food waste prevention and reduction (SDG 12.3). It provides a snapshot of relevant policy frameworks, common practices, and Dutch evidence (latest available monitoring) across the food supply chain, including hospitality.

1. Context and policy framework

The Netherlands aligns its sustainability agenda with European strategies, including the European Green Deal and the Farm to Fork Strategy. At national level, sustainability efforts in the agri-food sector are strongly linked to the transition towards circular agriculture (kringlooplandbouw), aiming to close nutrient cycles, reduce emissions, and improve biodiversity and soil health.

Within this context, preventing food loss and food waste is a priority. SDG Target 12.3 commits EU Member States to halve per-capita food waste at retail and consumer level by 2030 and reduce food losses along production and supply chains. Dutch monitoring and multi-stakeholder partnerships translate this target into practical action across households, retail, food service, processing and primary production.

2. Food waste in the Netherlands: scale and distribution

Food waste is both an environmental and economic challenge: it represents wasted land, water, energy and labour, and generates avoidable greenhouse gas emissions. In the Netherlands, the most recent national monitoring (EU definition) estimates that total food waste in 2023 amounted to 2,271 kiloton, equivalent to 127 kg per capita.

The same national monitor provides an estimate by supply chain segment (EU reporting categories). The table below summarises the 2023 distribution, showing that food waste occurs throughout the chain, with the largest volumes in processing/manufacturing and households.

Table 1. Food waste in the Netherlands by supply chain segment (2023)

Supply chain segment (EU reporting)	Food waste (kiloton)	Share / notes
Primary production (agriculture & fisheries)	183	≈8.0% of total
Processing & manufacturing	1,046	Largest share in 2023

Retail & other distribution*	111	Retail estimate; other distribution partly included in processing
Restaurants & catering services	83	Estimate; note: monitor mentions restaurant data limitations
Households	848	Based on latest household measurement (2022)
TOTAL	2,271	127 kg per capita

*Note: The monitor indicates that limited data are available for 'other food distribution'; retail is reported explicitly.

In addition, the monitor reports that in 2023 approximately 21 kiloton of food was donated to food banks, and 853 kiloton of food intended for human consumption went to animal feed. These flows are important elements of a waste hierarchy approach: while prevention is preferred, redistribution and valorisation can reduce the environmental burden of surplus food.

2.1 Household food waste (latest measurement)

Household food waste is measured periodically in the Netherlands using waste composition analysis. The most recent measurement (2022) found an average of 33.4 kg of solid food wasted per person per year at home, which corresponds to 8.9% of purchased food. The largest wasted product groups were bread and bakery products (6.2 kg), vegetables (4.4 kg), fruit (4.3 kg), potatoes (2.8 kg) and dairy (2.8 kg).

Complementary data from the national knowledge base also report an average of 64.4 litres of beverages wasted per person per year via sink or toilet in 2022.

2.2 Food waste in hospitality and food service

Food waste in restaurants and catering services is a visible and actionable area for WP2 because professional kitchens can directly influence purchasing, storage, menu design, portioning, preparation and reuse of ingredients. The national monitor estimates 83 kiloton of food waste in 'restaurants and catering services' in 2023, noting that this figure currently draws on limited data and that the estimate has historically focused on restaurants.

In practice, interventions in hospitality often focus on: (1) measurement and staff routines, (2) menu engineering and plant-forward menu design, (3) smarter portioning, (4) storage and stock rotation, and (5) collaboration with redistribution partners for surplus food.

3. Sustainable approaches to food in the Netherlands

3.1 Local and seasonal sourcing (short supply chains)

Short food supply chains (korte ketens) are promoted to strengthen local economies and improve transparency about origin and production. For hospitality, short chains can enable seasonal menu planning, support regional producers, and reduce transport-related emissions where long-distance imports are replaced. Public procurement guidance and regional initiatives increasingly encourage local and sustainable sourcing.

3.2 Circular agriculture and resource efficiency

Circular agriculture (kringlooplandbouw) is a defining Dutch policy direction. It aims to minimise waste and emissions by closing loops for nutrients and resources, improving soil health, and reducing dependence on imported inputs. For chefs and hospitality organisations, circular principles translate into using whole ingredients, valorising by-products (e.g., broths, powders, pickles), and reducing packaging and single-use materials.

3.3 Organic and nature-inclusive production

Organic and nature-inclusive approaches avoid synthetic pesticides and fertilisers, promote biodiversity, and often align with consumer expectations around health and animal welfare. They can also connect to food waste reduction by encouraging seasonal consumption and careful use of higher-value ingredients.

3.4 Urban agriculture and innovation

Urban agriculture (rooftop farms, community gardens, vertical farming) supports local engagement with food, biodiversity in cities, and educational opportunities. In the Dutch context, such initiatives are often linked to broader circular-city agendas, including composting, local distribution, and community learning.

3.5 Sustainable fisheries and seafood choices

Sustainable fisheries in the Netherlands operate under EU frameworks such as the Common Fisheries Policy (CFP), which uses catch limits and technical measures to avoid overfishing and reduce bycatch. Certification schemes (e.g., MSC) are commonly used to support consumer and procurement choices for responsibly sourced seafood.

4. Selected Dutch examples and good practices (food waste focus)

The Netherlands hosts a mature ecosystem of public-private initiatives, campaigns and business models aimed at preventing and reducing food waste. The examples below illustrate practices relevant for WP2 learning and transfer.

- National multi-stakeholder movement: Samen Tegen Voedselverspilling coordinates actors across the chain to achieve SDG 12.3 and positions the challenge as keeping "good food" in the chain.
- Consumer and business marketplace model: Too Good To Go enables businesses (including hospitality) to sell surplus food as 'surprise bags'. Dutch reporting shows millions of meals saved since launch.
- Measurement and monitoring: WUR's Monitor Voedselverspilling provides annual national estimates and highlights where data gaps remain (notably for out-of-home consumption).
- Household reduction focus: Voedingscentrum consumer campaigns and measurement support behavioural change, especially around bread, fruit/vegetables, and date label understanding.

5. Education and capacity building for hospitality

For WP2, education is a key lever. Training programmes can embed sustainability and waste prevention through practical competencies:

- Applying a waste hierarchy: prevention first, then redistribution, then valorisation.
- Kitchen measurement routines (e.g., prep waste, plate waste, spoilage) to identify hotspots.
- Menu planning: seasonal menus, flexible components, cross-utilisation of ingredients.
- Stock management: FIFO rotation, storage guidelines, and correct date-label interpretation.
- Creative use of by-products and surplus (stocks, pickles/ferments, purees, crumbs, oils).

Embedding these topics in chef education supports long-term change, as graduates carry skills and attitudes into professional kitchens and procurement roles.

Disclaimer

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