



Ministry of Agriculture, Nature and  
Food Quality

# Fact Sheet: Food Waste in the Netherlands

May 2010

Food is essential for our health, our way of life and our perception of the world. It greatly influences our society in terms of the economy, animal welfare and ecology. The important economic value of food is demonstrated by the figures in the Netherlands, with consumers spending over EUR 27,000 million a year on food and a turnover of more than EUR 42,000 million in the agrochain as a whole, from production to retail. The agrochain in the Netherlands generates app. 27% of total industrial turnover and 20% of employment. The Netherlands is also an important player on European and global markets in terms of the associated export and transport activities. At the same time food, after transport and housing, represents the greatest environmental impact (environmental impact worldwide 20%-30%, for the Netherlands over 50%) (source: EIPRO-study by ESTO & IPTS). This is generated in CO<sub>2</sub> emissions, energy and water usage, transport kilometres and waste processing. If this food is not consumed, the impact on the environment has been unnecessary and this conflicts with our values and (shared) responsibility for the planet.

Food is thrown away throughout the whole agrochain. It is estimated that Dutch consumers throw away, at least EUR 2,400 million worth of edible food per annum, that is 8%-11% of the food they buy. In kilograms that amounts to at least 50 kg per person and app. 120 kg per household. In the agrochain there is a loss of app. EUR 2,000 million per annum. This is 30% up to even 50% in some sectors. Of this, 10% to 20% is lost in production, 2% to 10% in industry and trade and 3% to 6% in the retail and out-of-home market. 75% to 90% of this involves fresh products (source: Milieu Centraal). If food is thrown away it does not necessarily mean that it is not used at all. In the food processing industry for instance, many waste flows are partially used for composting, biomass or animal feed. It does however mean waste if the residuals are not fully utilised, preferably as food for human consumption<sup>1</sup>.

Food waste is a complex issue, because chain parties, consumers and government are all involved. Also, the individual and public interest differ greatly, and the consequences for each single party

are relatively small. In addition, no one party is capable of taking the large-scale actions required to alleviate the matter substantially. Many people are now recognising that food waste is not a 'single issue'. It is, e.g., related to efficiency in the agrochain, to reduction of the environmental impact and energy use and to responsible business practices. It could also serve as a strong stimulus to innovation. Food waste is a good example of the increasing recognition of the importance of the interaction between people, planet and profit, and that innovation and sustainability of production methods go hand in hand with economic benefits and more responsible consumer behaviour.

In 2006 a Consumer Platform, organised by the Ministry of Agriculture, Nature and Food Quality, made clear that the issue of food waste was considered highly important. However, it was uncertain to what extent the partners in the agrochain were concerned about this issue. A study indicated that stakeholders did not deny the facts on waste, but dealing with this issue was not high on their list of priorities. To further explore the possible role of the Dutch Government, further discussions were held in 2007 with representatives of different Ministries, representatives of the agrochain sectors, knowledge institutions and intermediaries.

Shortly after these discussions, the Ministry of Housing, Spatial Planning and the Environment started a pilot project on food residues in the agrochain, as part of the development of a new national waste management policy ('Project Ketenaanpak Afvalbeleid'). The goal was to explore the possibility of collaboration with the agrochain to develop practical solutions to reduce the environmental impact caused by food waste. For this approach, the cradle to cradle-concept was an important motive. The Ministry of Agriculture, Nature and Food Quality participated in this pilot from the start and has continued to stimulate projects to reduce food waste after the pilots were ended. An important stepping stone for these activities was the publication of the Policy Paper on Sustainable Food in 2009. In this policy paper the Minister of Agriculture, Nature and Food Quality, together with her colleagues the Minister of Housing, Planning and the Environment and the Minister for Health, Welfare and Sport presented the Dutch food policy up until 2025. Food waste is an important topic in this paper. It even states the ambition to reduce the food waste by 20% in 2015. Herewith food is considered wasted if food which is intended to be eaten by humans is not actually eaten by humans. This implies that not only food is wasted when it is thrown away by consumers or in the agrochain, but also when food residues are not reused (preferably as food for humans) or when processes in the agrochain reduce the quality of food which leads up to not using the food for human consumption.

The policy is to raise awareness on the topic. The instruments the Ministry wants to use are not direct intervention, but indirect inducement. The Ministry's role is one of initiating, facilitating, and, where useful and feasible, supporting the process.

Current activities are directed at:

- today's consumer (increase awareness and promote behaviour to prevent waste),
- the consumer of the future (general information in schools and targeted education for specific professions),
- the market place (retail and food service sector; information to consumers, promoting desired consumer behaviour, reducing wasteful behaviour),
- the agrochain parties (prevent food waste in the agrochain, promotion of innovations to prevent or reduce waste and encourage useful use of food residues)
- the food system (e.g. regulations which induce food waste or which prevent reuse of food residues, pricing system of food)
- building a better understanding of food waste (research program, e.g. a monitor on food waste).

Currently a implementation plan is being drawn up by the Ministry of Agriculture, Nature and Food Quality to provide a more systematic approach to the issue of food waste. This will give concrete form to how the reduction in food waste can be achieved by 2015.

<sup>1</sup> In the pilot project 'Useful applications for organic residue-flows' (Nuttige toepassingen van organische reststromen), the cascade of uses of food residues was elaborated in the 'Ladder van Moerman' (an analogy to Lansink's waste ladder used in waste management).  
In descending order of utilisation:

- Prevention of food waste
- Applications for human food (for example food banks)
- Conversions for human food (for example, processing and reprocessing of food)
- Applications in animal feed
- Raw materials for industry (biobased economy)
- Processing to manure through anaerobic digestion (and energy production)
- Processing to manure through composting
- Applications for sustainable energy (aim: energy generation)
- Burning as waste (aim is destruction with energy as by-product)
- Landfill

**Table: Current activities on reducing food waste involving the Ministry of Agriculture, Nature and Food Quality**

Activities	Description
Education implementation plan 'Food waste, Value of Food in the Chain'	Development of an education plan across all levels of education. Two tracks: <ul style="list-style-type: none"> <li>raising awareness of food waste in all secondary and higher education (from pre-vocational to university)</li> <li>raising awareness of food waste in general education (primary and secondary)</li> </ul> Collaboration between: EduDelta Onderwijsgroep (Wellant College, INHolland Delft, Wageningen UR and others)
Study 'Food waste, Value of Food in the Agrochain'	Study by LEI Wageningen UR. Gives a comprehensive picture of the many aspects of food waste in the Netherlands (including a research agenda to support the education agenda). Commissioning body: Green Knowledge Cooperative (Groene Kennis Coöperatie) and Ministry of Agriculture, Nature and Food Quality.
Pilot 'Meat quality assessment'	Project aimed at application (and possible later rolling-out) of a new quality assessment method to determine the quality of meat in slaughterhouses. The estimated reduction of losses in the meat sector is up to 30%. Collaboration between: VanDrie Group, Ministry of Housing, Spatial Planning and the Environment and Ministry of Agriculture, Nature and Food Quality.
Project 'Bread of Tomorrow'/'Fast return'	Project to make better use of returns of day-old bread within the industrial bread chain. Collaboration between: Stichting Bakkerij Imago (SBI) and the Ministry of Agriculture, Nature and Food Quality
Project 'Bread of Tomorrow'/'Anaerobic digestion of day-old bread'	Project to study whether it is possible to recover leavening agent from day-old bread to make new bread. Collaboration between: European Bakery Innovation Centre (EBIC) and Ministry of Agriculture, Nature and Food Quality
Impulse programme on sustainable agrochains (2009-2010)	Impulse programme by the Ministry of Agriculture, Nature and Food Quality to realise politically sensitive sections of the Minister's policy programme. One of the sections is 'Reducing food losses in high-value agrochains'. Initiator: The Ministry of Agriculture, Nature and Food Quality
Prizes for successful examples in reducing food waste	Competition to highlight existing initiatives in which businesses and consumers can submit good practises on how to reduce or avoid food losses. The 5 or 6 best examples will receive a prize from the Minister of Agriculture, Nature and Food Quality with extensive media attention. Part of Impulse programme for sustainable agrochains. Initiator: The Ministry of Agriculture, Nature and Food Quality
Incentive for business initiatives 'Gerichte impuls LNV' (SBIR Food waste)	By means of a 'Small Business Innovation Research'-instrument support for new initiatives to reduce or prevent waste that are important to the Ministry of Agriculture, Nature And Food Quality. Support may be used for a research or training project, feasibility study, reimbursement of organisational or collaboration costs, pilot projects, etc. Part of Impulse programme for sustainable agro-chains. Initiator: Ministry of Agriculture, Nature And Food Quality
Public Innovation Agenda: sustainable agro and fisheries chains	Innovation agenda aimed at fundamental long-term innovation in agricultural and fisheries chains and at new bio-based processes and products. To induce breakthroughs on important topics. Food waste is an action point in this agenda. Initiator: Ministry of Agriculture, Nature and Food Quality
Government fund for strengthening of economic structure (FES): application Food and Nutrition Delta (2012-2015)	Food Chain Sustainability and Dynamics as theme under the Food and Nutrition Delta programme. Aimed at developing knowledge and valorisation to improve efficiency in the fresh food chain. Initiators: Ministry of Economic Affairs, Ministry of Agriculture, Nature and Food Quality and Ministry of Education, Culture and Science
Waste-Free Restaurant	Support of the initiative for a waste-free restaurant. Collaboration: entrepreneur and Ministry of Agriculture, Nature and Food Quality. Research by Wageningen University and Research Centre.
Policy Document on Sustainable Food	Governmental vision on sustainable consumption and production of food. The Ministry of Agriculture, Nature and Food Quality is aiming to achieve a 20% reduction in food waste by 2015, targeting the consumer and the agrochain. Initiator: Ministry of Agriculture, Nature and Food Quality

Activities	Description
Public campaign to promote awareness about food and food losses (e.g. 'VersWijzer')	Public campaigns by the Ministry of Agriculture, Nature and Food Quality itself ('Hollandse Tapas') and, with support of the Ministry, by the Netherlands Nutrition Centre and Milieu Centraal. Aimed at consumer behaviour and raising awareness. Paying special attention to: informed food purchasing, storage, preparation en reuse of food residuals. This has e.g. resulted in the development of the fresh food information brochure, <i>VersWijzer</i> Commissioning body: Ministry of Agriculture, Nature and Food Quality
Best Practices in agrochain collaboration	Wageningen University and Research Centre has recorded a number of best practices of agrochain collaborations that were successful in reducing food losses. These have been included in the 'Experience box' developed to promote innovation in the agrochain sectors. Special attention has been given to activities initiated by the collaboration. Commissioning body: Ministry of Agriculture, Nature and Food Quality
Knowledge and research agenda Food waste	Drafting of a research agenda on food waste, systematic implementation of this knowledge agenda in de forthcoming years as well as the dissemination of the results. Commissioning body: Ministry of Agriculture, Nature and Food Quality
Mass media campaign on Food waste	Preparations for campaign on food waste in 2011 for the continuation of the mass media campaign in 2010. Commissioning body: Ministry of Agriculture, Nature and Food Quality
Research on regulation which induces food waste or which prevent reuse	Study on the relation between food safety-regulations and food waste. An inventory of legislations and rules that provokes food waste as well as an inventory of legislations and rules that hinders the prevention and reduction of food waste. The industry is highly interested in this survey and will be involved in several phases of the survey. Commissioning body: Ministry of Agriculture, Nature and Food Quality. With support of VDC/Dier, AKV, Food and Consumer Product Safety Authority (VWA), Ministry of Housing, Planning and the Environment.
Research on consumer target groups	Study on possible different approaches to differences in age group and lifestyle for media campaigns on food waste aimed at consumers. Commissioning body: Ministry of Agriculture, Nature and Food Quality
Experiments for sustainable catering ('LNV als Duurzame Proeftuin')	Pilots to explore possibilities for sustainable catering e.g. to reduce food waste within governmental offices. Initiator: Ministry of Agriculture, Nature and Food Quality
Salvation Army Project	Study of possibilities to support business operation in the kitchen, using by-products from the Food chain. Collaboration between: INHolland catering college, the Knowledge centre for society and religion, Salvation Army and others
LNV-innovation impulse	4 Experiments to generate concrete solutions to food waste in specific sectors. The industry is enabled to develop feasible solutions (including a business plan) to prevent/reduce Food waste. Initiator: Ministry of Agriculture, Nature and Food Quality
Working Group on the theme of Food Waste (under Dialogue Sustainable Food system)	As part of the Programme Sustainable Food systems, working group to induce all kinds of initiatives to reduce food waste in catering and the agro chain which leads up to this. Collaboration between: entrepreneurs, Ministry of Agriculture, Nature and Food Quality, Ministry of Environment and Agentschap NL
Monitor on Food Waste	A set of Food waste-indicators throughout the whole Food chain (including consumer and (re)use of food waste) that shows to which extent the Dutch food system leads up to food waste. The first results will be expected in June of 2010. Part of the assignment is to initiate a public and scientific debate on the combination and choices of the indicators. Regular renewal of the monitor and consistent validation of parts of the monitor are planned Commissioning body: Ministry of Agriculture, Nature and Food Quality. Research by Wageningen University and Research Centre and LEI
Experiment 'Last 15 minutes in the restaurant of Ministry of Agriculture, Nature and Food Quality	Project as part of 'LNV als Duurzame Proeftuin'. Food waste is reduced by 25% by not offering the complete assortment in the restaurant of the Ministry of Agriculture, Nature and Food Quality in the last fifteen minutes before closing time. Existing contracts will be changed accordingly and results will be promoted. Collaboration between: entrepreneur and Ministry of Agriculture, Nature and Food Quality
Research on company working lunches	Project as part of 'LNV als Duurzame Proeftuin'. Research on possibilities to prevent/reduce food waste at working lunches. Initiator: Ministry of Agriculture, Nature and Food Quality
Factsheet on facts and figures of food waste by consumers	General factsheet with facts and figures on Dutch Food waste by consumers. Participants: Netherlands Nutrition Centre, Milieu Centraal, Ministry of Housing, Spatial Planning and the Environment and Ministry of Agriculture, Nature and Food Quality.

Activities	Description
Research on stimulants that induce food waste	Research on the stimulants in our economy based food system that have an unintentional and unwanted effect on food waste. Part of the activities of the Working Group on the theme of Food Waste (under Dialogue Sustainable Food system). Collaboration between: entrepreneurs, Ministry of Agriculture, Nature and Food Quality, Ministry of Environment and Agentschap NL
Project 'Meals on Wheels'	Research to determine the results objectively of a new method of food distribution in two hospitals (e.g. vast reduction of food waste). This project is also connected to activities in the field of 'food and health' because it is assumed that this method of food distribution has several positive health effects on the patients. Collaboration between: entrepreneur and Ministry of Agriculture, Nature and Food Quality. Research by Wageningen University and Research Centre.
Project 'Reduction of food waste in regional settings'	Start up of the project 'Reduction of Food waste in regional settings': experiments in several cities to reduce food waste (in co-operation with communities, supermarkets, education, etc.). Commissioning body: Ministry of Housing, Spatial Planning. With involvement of Agentschap NL and Ministry of Agriculture, Nature and Food Quality. Research.
Project 'Reduction of food waste in foodservices'	Start up of the project 'Reduction of food waste in foodservices' Commissioning body: Ministry of Housing, Spatial Planning. With involvement of entrepreneurs, Agentschap NL and Ministry of Agriculture, Nature and Food Quality. Research.
Database of good practices to reduce/avoid food waste	Preparatory work for a database of good practices on the reduction and avoidance of food waste. Initiator: Ministry of Agriculture, Nature and Food Quality.
Support on activities to reduce food waste by (participants of) Platform Sustainable Food	Involvement with activities of participants of the Platform Sustainable Food to reduce food waste. Initiator: Ministry of Agriculture, Nature and Food Quality. Collaboration between several organisations of food suppliers.

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Further information/useful links:

- Agentschap NL: [www.senternovem.nl](http://www.senternovem.nl)
- AKK: [www.akk.nl](http://www.akk.nl)
- EIPRO-study (ESTO & IPTS): [http://ec.europa.eu/environment/ipp/pdf/eipro\\_report.pdf](http://ec.europa.eu/environment/ipp/pdf/eipro_report.pdf)
- Experience box: [www.experiencebox.nl](http://www.experiencebox.nl)
- Green Knowledge Cooperative: [www.gkc.nl](http://www.gkc.nl)
- LEI Wageningen UR: [www.lei.wur.nl/UK](http://www.lei.wur.nl/UK)
- Milieu Centraal: [www.milieucentraal.nl](http://www.milieucentraal.nl)
- Ministry of Agriculture, Nature and Food Quality:  
[www.minlnv.nl](http://www.minlnv.nl) (eg. Policy Document on Sustainable Food)
- Ministry of Housing, Spatial Planning and the Environment:  
[www.minvrom.nl](http://www.minvrom.nl) (e.g. National Waste Management Policy)
- Netherlands Nutrition Centre: [www.voedingscentrum.nl](http://www.voedingscentrum.nl)
- Wageningen University and Research Centre: [www.wur.nl/UK](http://www.wur.nl/UK)

