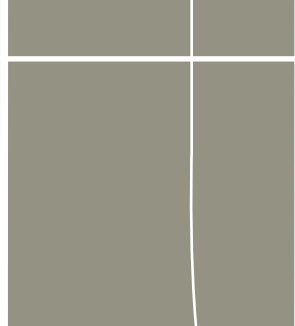
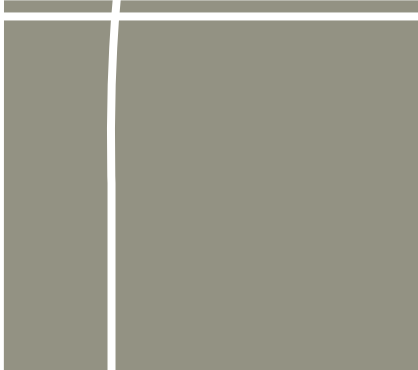
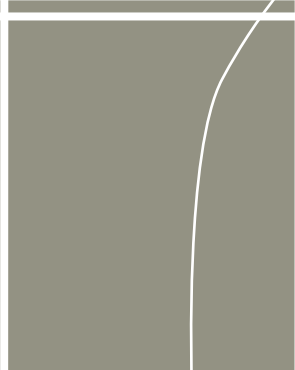
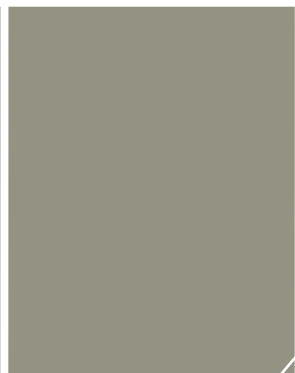


Food Redistribution in the Nordic Region

Experiences and results from a pilot study



THE NORDIC REGION
– leading in green growth





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*Ole Jørgen Hanssen, Per Ekegren, Irmelin Gram-Hanssen,
Pirjo Korpela, Nanna Langevad-Clifforth, Kristin Skov-Olsen,
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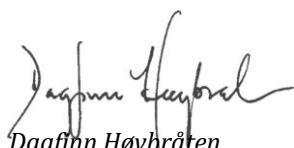
Foreword

This report has been developed within the Green Growth Program of the Prime Ministers in the Nordic region and is a good illustration on how three areas of politics can be combined:

- Environmental politics through food waste prevention.
- Social security politics through increased welfare for low-income people.
- Food safety politics through making food redistribution possible within the framework of food safety regulations.

The Nordic region is a leading region in Europe on food waste surveys and prevention, but is not among the leading regions in terms of redistribution of food. This report provides the basis for a strategy on how to further develop redistribution of food in the Nordic region, both nationally and regionally through food banks as well as locally through direct redistribution.

The follow-up to this report will focus on a Nordic model for how to develop food redistribution further, by building on the role of both food banks and local, direct redistribution.



Dagfinn Høybråten
Secretary General
Nordic Council of Ministers



Summary

This report summarizes experiences from Phase I in a Nordic project on food redistribution through food banks and direct redistribution, as well as giving an overview of laws and regulations on the area. The project was initiated by the Nordic Council of Ministers as part of the Nordic Prime Ministers' green growth initiative, The Nordic Region – leading in green growth, with budget from the Food and Agriculture program. The project has focused on redistribution of food that has been donated to prevent food waste, which means that ordinary sponsored food, either free of charge or to a very low price, is not included.

The main goals of this study and the report has been to:

- Give an overview and evaluation of the extent and potential effects of food redistribution in the Nordic region, both via food banks and more direct and local redistribution.
- To summarize the legal basis for regulation and control with food redistribution in the Nordic countries.
- To evaluate to what extent it has been harmonized or if it is regarded as important barriers to development of food redistribution.

There are few studies and little scientific data on food redistribution in a waste prevention perspective. Some new references to studies in the UK and Australia were found interesting through this study. Food banks are not a well-defined concept in present literature. In this report we have limited the concept of food banks to specific organisations that have been set up to function as open redistribution centres and where several stakeholders collaborate in establishment and operation. Matsentralen in Norway, fødevareBanken in Denmark and Allwin in Sweden fits within this definition, with a question mark on how the stakeholders are involved in the operation of Allwin.

Redistribution of food has been divided into two main approaches:

- Redistribution from food supply chain donors via redistribution centres like food banks, for storage and further distribution to end users which typically are charity organisations (the typical “food bank redistribution route”).

- Direct redistribution from food supply chain donors to charity organisations, which is typical for local redistribution.

Another important part of the project has been to compile available information about laws and regulations in the Nordic countries that can be potential barriers to establishment and operation of food banks and food redistribution in general. The main methodology applied in the second part of the project has been to carry out surveys by questionnaires to key persons in the involved organisations, both in national food banks, national charity organisations, local charity organisations and food donors, in many cases followed up by interviews either by telephone or through physical meetings.

The report gives an overview of both food legislation in the EU as well as nationally. Within the European Union food legislation is harmonized. Since 2002 the Union has a general food law; Regulation (EC) No. 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (hereafter regulation (EC) No. 178/2002). The regulation constitutes the basis for the union food legislation and shall apply to all stages of production, processing and distribution of food and feed. It shall not apply to primary production for private domestic use or to the domestic preparation, handling or storage of food for private domestic consumption.

Food banks should be regarded as food business operators according to regulations, and should thus follow the same overall rules as other types of businesses in the food supply chain. However, the four Nordic countries included in this study have defined food banks different with regard to the role in the supply chain, which can give quite different situations with regard to what is accepted and what is not to be redistributed. As far as possible the role of food banks could be harmonised in the Nordic countries. Direct food redistribution is in many cases not specifically mentioned in the survey of regulatory measures, making it unclear how national regulations and rules relates to charity organisations getting food directly from the food supply chain. This should be clarified and harmonised as far as possible.

The three food banks that exist in the Nordic region have quite different backgrounds and also quite different models for organisation and ownership. The founding process of the three food banks was also quite different. The Danish and Swedish food banks have been established and developed in a continuous process, whereas the Norwegian food bank was established after two years with planning. The three

food banks have also developed quite different business models, where the Swedish one is a private limited company, the Danish one a membership organisations with more than 300 members and the Norwegian one a cooperative organisations mostly owned by the national charity organisations, but also with a number of members. All three food banks were established with a two-sided purpose, both to reduce food waste and to make it easier for charity organisations to get access to food donations. The three food banks do also differ with regard to number of employees and volunteers, which is quite natural taken the length of operation into consideration.

The three food banks redistributed in 2013 about 900 tonnes of food, that otherwise would have ended as food waste. The number of meals served based in redistributed food has been estimated to about 1.67 mill in 2013, with about 926,000 in Copenhagen, 346,000 in Oslo and 400,000 in Gothenburg. The most important donors to the food banks today are food producing companies and to some extent wholesale companies, and mainly from the surrounding area of the cities where the food banks are located. In general, there have not been problems with the quality of food being donated, as the regulations on this are the same as for normal food distribution. The problem is more to receive fairly stable amounts of food and to have a sufficient variety of food types. The food banks do both have capacity to receive more food and there is a need for more food for redistribution, so there is potential for increase in redistribution in the future.

The main lessons learned from this brief overview of food banks in Nordic countries are that they are a small, but important actor in food waste prevention. It is important to consider the role for food security for low-income people, which gives redistribution a double role in the society. Food banks must find their role between the food sector and charity organisations, to supplement and not compete with the existing systems for redistribution locally. The food banks could also take the roles as “system operators” for redistribution of donated foods and be national competence centres for all actors being involved in food redistribution. Food banks can also have roles in certification of actors being involved in redistribution of food, which should be further discussed in Phase II of the project. The food banks struggle with low incomes and low support from national authorities; it is thus important to consider how the food banks should be financed.

National surveys were carried out based in a common research approach and with the same questionnaires applied in all countries. As this survey is the first attempt to get an overview of direct food redistribu-

tion in any Nordic country, it should be regarded as a pilot study where the objectives were both to establish a methodology for the survey as well as getting a first overview of the extent of food redistribution outside the “official” food banks. 2–4 cities/regions were included in each country, where the cases were selected in collaboration with national charity organisations. The survey indicated that locally organised direct redistribution makes a significant contribution to prevention of food waste and to social security for low income people in all countries. This does not mean that it will contribute to a big reduction in total amounts of food waste in each country, nor that a large proportion of low-income people will be served with redistributed food. For the weaker groups, this is the most important service of the charity organisations, and donated food makes up more than 50% of served food in most organisations. The figures are still quite uncertain and the regions studied are not representative for the whole country. Finland seems however to have a much better organized and a much higher number of serving places for low income people than the other countries.

Food redistribution has a long tradition in most countries, but is still relatively loosely organised by local relationships and direct contacts between persons in the charity organisations and food companies/retail companies. Central agreements between organisations and food and retail companies would certainly have made it easier to establish and manage local and direct redistribution. A main barrier mentioned by the local organisations is lack of resources to establish and maintain a system for receiving food donations. One way to better facilitate food redistribution from food producers and retailers to local charity organisations is by providing access to monetary and human resources for the purpose of establishing and maintaining local systems for receiving food donations. This system also needs to include infrastructure such as storage and cooling facilities as well as solutions for transportation of food from the donor to the organisation.

The main findings from direct redistribution of food in the Nordic countries, based in the regional studies carried out shows that the average number of meals served per year per 1,000 inhabitants varies between 217 and 335, whereas the number of food bags delivered per 1,000 inhabitants varies between 17 in Sweden and 522 in Finland. Those figures should be used carefully, since the calculations are based in a number of uncertain conditions which are discussed in the report.

Our pilot survey of direct redistribution indicates that direct redistribution today have a much larger volume than the amount of food being redistributed via food banks alone. The study also indicates that it can be a

great potential for increasing the amount of food being redistributed in the Nordic countries from the present status, and most of the charity organisations say there is a need for more food donations. Better organisation and clear guidelines from food authorities nationally can make it more acceptable for the food industry and retail companies to donate food, and realise the big potential for redistribution.

This survey has shown that there are significant differences in how food redistribution activities are organised in the Nordic countries, and that there are many models for how it can be organised. Food redistribution lack a systems organisation in the Nordic countries and there could be developed a good model that integrate the food banks operating on national and regional levels with local direct redistribution initiatives.

There are several areas that are important to be followed up through more specific studies, either as a direct following up from this pilot study or eventually in other similar settings, in the Nordic region or on a European scale. The three areas that have been described and that are proposed as input to discussions for Phase II of the Nordic Food Waste project are:

- Following-up study on the quantification of food redistribution in the Nordic region, both via food banks nationally and regionally and direct redistribution locally.
- Development of food banks as “system operators” in food redistribution, with regional networks and good collaboration with local direct redistribution systems.
- Further development of rules and control routines for both redistribution via food banks and especially for directly to charity organisations within the given EU regulations.

This report is part of the Nordic Prime Ministers’ overall green growth initiative: “The Nordic Region – leading in green growth”. Read more in the web magazine “Green Growth the Nordic Way” at www.nordicway.org or at www.norden.org/greengrowth



1. Introduction

This report summarizes experiences from Phase I in a Nordic project on food redistribution through food banks and direct redistribution, as well as giving an overview of laws and regulations on the area. The project was initiated through Nordic Council of Ministers through the Green Growth program, with budget from the Food and Agriculture program.

The project was initiated by the Nordic Council of Ministers as part of the Nordic Prime Ministers' green growth initiative, The Nordic Region – leading in green growth, with budget from the Food and Agriculture program. The initiative defines eight priorities aimed at greening the Nordic economies, one of which is to develop techniques and methods for waste treatment. Three of the projects launched within the initiative focus on food waste, including this study on the feasibility of establishing food banks in the Nordic countries

In this context, food redistribution is first of all seen in a perspective of food waste prevention and reduction, as all Nordic countries have this high up on the environmental policy agenda. This is a new approach to food redistribution, as the main reason behind organisation of food banks and local food serving initiatives normally has been to give low income people and people with special needs a better life. This is of course also an underlying part of this study, as the scope has been both to get an overview of how much food waste that is prevented through redistribution, as well as to get an overview of how many persons that are served each year.

All Nordic countries included in this survey have some type of food redistribution, although the concept of food banks is quite new in the Nordic countries compared to the rest of the world. Denmark was the first Nordic country to have a food bank in 2009, followed by Norway in 2013. In Sweden there is a private initiative that has functions like a food bank (Allwin), but not the status as national food bank. Finland does not have any food banks, but has a well developed direct and decentralized food redistribution system. Food redistribution is however not a new activity and service in the Nordic region, as there has been wide-spread activity by a number of charity organisations locally for several decades. The new is the organisation of food banks with a more “official” role, and

the fact that food redistribution is seen as part of waste prevention politics and programmes.

The project has focused on redistribution of food that has been donated to prevent food waste, which means that ordinary sponsored food, either free of charge or to a very low price, is not included. In some cases, it has been difficult to distinguish between the types of donated food, and the donators themselves do not necessarily register the food donations differently.

According to the Federation of European Food Banks (FEDB) there are food banks in 21 countries in Europe and a total number of 256 food bank organisations involved in redistribution. In the Nordic region, only the Danish fødevareBanken is registered as a full member, whereas the Norwegian Matsentralen is registered as a project. In Sweden and Finland, there are no registered members or project in the FEDB network.



2. Goal and scope of the report

The main goal of this study and the report has been to give an overview and evaluation of the extent and potential effects of food redistribution in the Nordic region, both via food banks and more direct and local redistribution. It has also been a goal to summarize the legal basis for regulation and control with food redistribution in the Nordic countries, and to evaluate to what extent it has been harmonized or if it is regarded as important barriers to development of food redistribution. The survey has focused on the situation in each of the four Nordic countries, as well as discussing experiences on a common Nordic platform.

It is important to notice that this first phase of the project has not had an ambition to develop a complete picture of food redistribution in the Nordic countries. The time and resources that have been available, and the fact that this is one of the first systematic studies of food redistribution, has only made possible a pilot study with a few regions and cities in each country, not necessarily giving a representative picture for each country or the whole region. Using more representative samples will be one important part of a phase II of the project, based in methods developed in phase I.



3. Status of knowledge – food redistribution

There are a lot of information available on redistribution of food and food banks both in Europe and globally, being available from the networks of European and Global food banks (see www.foodbanking.org). Food banks have been established all over the world for a long time period, and there are food banks represented in most parts of the world. The first Food Bank in Europe was established in France in 1984, based in an initiative from five charity organisations (Secours Catholique, Emmaüs, Armée du Salut, Entraide d'Auteuil and Entraide Protestante). According to the Federation of European Food Banks (FEDB) there are food banks in 21 countries in Europe and a total number of 256 food bank organisations involved in redistribution (FEDB 2014). In the Nordic region, only the Danish fødevareBanken is registered as a full member, whereas the Norwegian Matsentralen is registered as a project. In Sweden and Finland, there are no registered members or project in the FEDB network.

The reports that have been the basis for establishment of the Matsentralen in Oslo in 2013 do also give good overviews about the state of knowledge about food banks in general (Høiner *et al.* 2011, Stormoen og Ellingsen 2012). There is however limited knowledge about the role of redistribution in a broader perspective, when coming to direct and local redistribution by charity organisations, as well as the role of food banks as a measure to prevent food waste (see Møller *et al.* 2014, Schneider 2013). Studies by Alexander & Smaje (2008) and Midgley (2013) give valuable knowledge from specific studies of food banks in the UK.

The 256 Food Banks in Europe contributed to redistribution of 402,000 tons of food in 2013, serving about 804 mill meals and serving about 5.7 mill people all over Europe through involvement of 31,000 charity organisations (FEDB 2014). About 22% of the food was donated from the food industry, 17% from retail shops and 14% from individuals.

The literature review carried out as part of the FUSIONS project showed that there were few studies and little scientific data on food redistribution in a waste prevention perspective (Møller *et al.* 2014). This has also been concluded by Alexander & Smaje (2008) and Midgley

(2013). Schneider (2013) has made a scientific study of food redistribution with case studies in Australia and Austria as a basis, and has summarized important knowledge about food redistribution globally. It is important to have clear definitions of *redistribution of food* and *food banks* when starting a project like this, where the main focus is to study redistribution of food in a *waste* prevention perspective.

Alexander & Smaje (2008) made a detailed study of food donation to Southampton FareShare from the two supermarket chains Sainsbury and Marks & Spencer, as well as two recipient projects; a Day Center for homeless people and a residential homeless hostel. The survey covered 3–5 days field work, where the food bank received 536 kg food or 174 kg per day (average over 6 month period 252 kg/day), mainly fresh fruits and vegetables, whereas Marks & Spencer donated 1,624 kg or 325 kg/day (average over a 6 month period was 552 kg/day). The most interesting results from Alexander & Smaje was the effectiveness of food redistribution. From Sainsbury, 19% of food that was offered for donation was rejected by FareShare. Another 20% had to be discarded at the recipient site, which means that only 65% of the offered food was given to the charity organisations. The same figures for Marks & Spencer, who mainly offered prepacked ready meals and desserts were 99% accepted of food offered and another 1% was discarded on the way to the serving places. At the serving places, about 40% of the food served was donated by FareShare, from 125 kg raw ingredients, 25 kg packaging and non-edible food was discarded, 76 kg was served to clients, whereas 24 kg was surplus food stored for later use. The clients discarded 12 kg of food from their plates. Summarizing the effectiveness figures, 68% of the food originally offered for donations ended up on the clients plates, whereas 58% ended up in their stomachs, whereas 40% returned to the waste bins (Alexander & Smaje, 2008). The main measures that can be used to increase effectiveness are to streamline logistics operation through good inventory control and optimise deliveries.

Redistribution of food is often regarded as a win-win situation for all involved actors, without conflicts of interests between the different actors. However, some authors, especially in the sociological school have also discussed institutionalised food redistribution can reduce the pressure on governments to improve structural poverty and support neoliberal retrenchment of public support to the vulnerable and reducing the need for deeper changes in the society (Power 2011, Edwards & Mercer 2013, Evans *et al.*, 2012, Midgley 2013). It has also been criticized that more or less all studies of food waste and food redistribution has been on the amount of waste generated and the causes for food being wasted,

whereas very few studies have focused on the processes of food redistribution and how to preserve quality of the food (Alexander & Smaje 2008). Midgley (2013) adopts an economy of qualities approach to the problem of surplus food redistribution, considering both food poverty and food waste to be symbols of inequalities and inefficiencies found in food systems. Her empirical study with interviews of different actors along the redistribution chain, to add to the understanding of what food surplus is, the qualities attached to it, how to manage it and what are the challenges and opportunities for utilising food surplus. One problem described is the variability of the resource and the difficulties to plan meals based on low predictability both in amounts and quality of the food donated. Another important issue pointed out is that not all original product qualities such as branding and legal obligations are detached or altered through becoming surplus, which require careful management of the resource in the redistribution chain (Callon *et al.* 2002, Alexander & Smaje 2008). Midgley (op. cit) calls for a clearer distinction by policy makers and practitioners between genuine food waste and food that can be redistributed for social benefits if surplus food is to be more fully utilised as a resource. Greater understanding of the values and qualities associated with surplus food and how potential tensions surrounding this surplus is important according to both Alexander & Smaje (2008) and Midgley (2013).

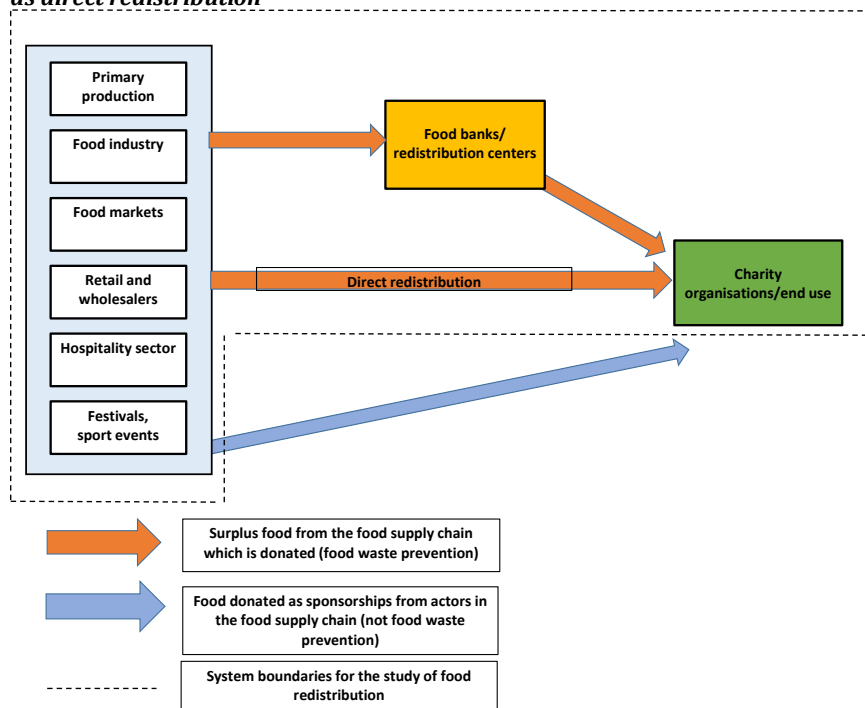
Food donation might include both food that otherwise would have been wasted due to lost economic value in the market, as well as food that is donated through sponsoring of charity organisations, big sport events for young people etc. In this study, we have defined *redistribution* only to include food that is donated and which otherwise would have been wasted (brown arrows in Figure 1). The concept of donation of food is normally used for both redistribution and sponsoring (Global FoodBanking Network).¹ We have further divided redistribution of food into two main approaches, which are illustrated in Figure 1:

¹ <http://foodbanking.wpengine.com/food-banking/food-banking-works/>

- Redistribution from food supply chain donors via redistribution centers like food banks, for storage and further distribution to end users which typically are charity organisations (the typical “food bank redistribution route”).
- Direct redistribution from food supply chain donors to charity organisations, which is typical for local redistribution.

In principle, redistribution of food should be possible from the whole food supply chain as indicated in Figure 1. According to the FUSIONS methodological framework for food waste quantification, redistribution includes all activities from the gate of the donor and with the end point at the final user (Møller *et al.* 2014), including transport, storing, distribution and usage. This is more organised with more complex logistic functions for the food bank route than for direct redistribution.

Figure 1: Principle structure of redistribution systems for food via food banks or as direct redistribution



Due to food regulations it should be possible to trace back how much food that is donated either through redistribution or by sponsoring, which is in most cases not possible at present (Schneider 2013). Developing better systems for tracing of and quantification of food that

is redistributed could thus be an important task for the Nordic Council of Ministers.

Food banks are not even a well defined concept in present literature, as can be seen from the home pages of GFN and FEDB and the literature review through the FUSIONS project (Møller *et al.* 2014). There might be one national food bank in small countries like most of the Nordic countries, and there might be a large number of food banks operating in larger countries like UK, Germany, France and US. There might thus be both national, regional and local food banks in a country, where the main difference is related to the geographical scale of operation and eventually coordinating actions for national food banks. The *function* and role of a food bank is however quite clear, functioning as a *redistribution* center for food, where food are donated from producers, wholesalers, retailers or other companies/organisations, to organisations that can serve meals to or give food bags to mostly needy people. The description of the planning process for a food bank in the Toolkit for Food Banks,² indicates however that a food bank should be an organisation where the most relevant stakeholders (food business, charity organisations, authorities) should collaborate both in planning, establishing and operation of food banks. The proposed organisational structure as well as the proposed economic systems indicate also clearly that a food bank is a *distinct organisation* with a board and management team being responsible for the operations.

Where to set the boarder line to some of the organisations that operate in food redistribution in the Nordic region today, is however not straightforward. Both in Norway, Denmark and Sweden, there are organisations that fulfil the criteria of food banks being independent organisations with the role as national redistribution centers and with several stakeholders being involved, but there are also some regional examples where a charity organisation or even single persons have taken this role. In this report we have limited the concept of food banks to specific organisations that have been set up to function as redistribution centers and where several stakeholders collaborate in establishment and operation. Matsentralen in Norway, fødevareBanken in Denmark and Allwin in Sweden fits within this definition, with a questionmark on how the stakeholder involvement is taken care of in strategic management by Allwin. Those are in the context of this report categorised as “official food banks” (see Chapter 6).

² <http://foodbanking.wpengine.com/food-banking-resources/knowledge-center/toolkits/>

There is also a well defined need for social security programmes in the Nordic region. In Norway, there was about 250,000 persons defined according to the definition given by EU (lower than 50% of the middle income per capita) and this number have been quite stable over the last years. The Nordic Statistical Yearbook 2012 (Nordic Council of Ministers 2013) operates with statistics about how large percentage of the population that is in need for social assistance in the Nordic countries. According to Table 1, a relatively large percentage of the populations are in need for social assistance in Nordic countries, with the highest level in Finland (6.7% in 2010) and the lowest in Norway (3.6%). The percentage has decreased in most countries since 2000, when Finland had a very high level of 8.2% of its population dependent on social assistance (Table 1). Those figures are of course an important background for how food redistribution has developed in the Nordic countries.

Table 1: Percentage of population in need for social assistance in Nordic countries 2000–2010
(Source: Nordic Council of Ministers 2013)

Country	2000	2005	2010
Sweden	4.9%	3.8%	3.9%
Finland	8.2%	6.8%	6.7%
Denmark	4.1%	4.3%	4.0%
Norway	4.3%	4.2%	3.6%



4. Methods and data gathering

The time frame for the project in Phase I has been about 12 months, from the starting in August 2013 to finalizing the first report in July 2014. As the first two months were used for planning of the project work and setting up a project organisation, the real work did however not start before October 2013, with approval of the work plan in the Steering Committee 23th October 2013.

With relatively small resources, it has not been possible to make detailed surveys with quantitative studies of flows of redistributed food from donators to charity organisations and food banks as part of Phase I of the project. One important part of the project has been to compile available information about laws and regulations in the Nordic countries that can be potential barriers to establishment and operation of food banks and food redistribution in general. This part of the work has been carried out by national experts from the food safety authorities, who have made a description both of what is a general framework for regulation from the EU, as well as national special regulations. Representatives in the expert group have been:

- Legal advisor Per Ekegren, Swedish Food Safety Authorities.
- Senior officer Pirjo Korpela, Finnish Food Safety Authorities Elvira, Finland.
- Legal advisor Kristina Skov Olsen, Danish Food Safety Authority, Denmark.

In addition, Atle Wold, Norwegian Food Safety Authority, Norway and Hallvard Kvamsdal, Ministry of Health, Norway have made the description of the Norwegian Food Regulations and contributed with valuable input to the rest of Chapter 5. Rikke Karlsson from Danish Food Safety Authority has contributed to the description of Danish Food Regulations as well as given valuable input to other parts of the report.

The main methodology applied in the second part of the project has been to carry out surveys by questionnaires to key persons in the involved organisations, both in national food banks, national charity organisations, local charity organisations and food donators, in many cases followed up by interviews either by telephone or through physical meetings. An overview of contacted institutions and companies is given in Appendix 1. One important part of the project has thus been to develop the questionnaires for data gathering, where copies of the forms are enclosed to the report (Appendices 2–4). The questionnaires focused on:

- What types of food serving activities that are carried out.
- The number of clients and the number of portions being served annually.
- How important food donations are for the food serving activity of each organisation.
- To what extent local or national authorities support food redistribution with economic resources, building resources, transport and logistics etc.
- If redistribution has been limited by laws and regulations within food security and if this is a serious bottleneck for the organisations.
- If there is a need for and potential for increasing food redistribution by the organisations, and what is the most serious limitations to realize such an increase.

The second part of the project has been carried out in two steps, where the project manager has been responsible for carrying out interviews with and following up the national food banks in Denmark, Sweden and Norway. Studies of direct food redistribution has been organized nationally, where:

- MTT (Kirsi Silvennoinen) has been responsible for the study in Finland.
- PlanMiljø (Irmelin Gram-Hanssen and Nanna Langevad Clifforth) has been responsible for Denmark.
- IVL (Åsa Stenmarck and Malin Stare) has been responsible for Sweden.
- Østfoldforskning (Ole Jørgen Hanssen and Erik Svanes) has been responsible for Norway.

In each country, the national survey started with contacts to the national charity organisations that are most involved in food redistribution, identified by taking contact with a few key persons and organisations in each country. Data from the national charity organisations were gathered through questionnaires and in most cases following-up interviews, where one important aim was to identify regions or cities to carry out surveys of local food redistribution. In each country, 2–4 regions were selected as study objects, with data gathering first from key persons in local charity organisations based in contact information from the national organisations. The list of persons was supplemented through information from local organisations, to get as complete a picture as possible about food redistribution in each of the studied cities or regions. Through the local charity organisations, lists of donors with contact persons were established as a basis for getting in contact with the active donors on the local/regional level. Standard questionnaires were also sent to the local donors, in many cases also followed up by telephone interviews or questions that are more direct. Not all donors responded on the request for information, either because they claimed not be involved in food donations or due to lack of time. However, the number of respondents gives a good overview of the experiences with and potential extent of food donations, and how the donors view this type of activity.



5. Laws and regulations influencing food redistribution in the Nordic region

5.1 EU Regulations and Common laws and regulations in the Nordic region influencing food redistribution

EU regulations and politics are important for food safety EU and in EEA countries like Norway (and Iceland). The description and evaluation of potential barriers to food redistribution by food safety regulations starts thus with an overview of EU regulations, followed by national experiences and regulations if applicable.

5.1.1 Relevant EU Regulations

The following EU regulations are considered to be the most important regarding redistribution of food:

- Regulation (EC) No. 178/2002 of the European Parliament and of the Council of 28th January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.
- Regulation (EC) No. 852/2004 of the European Parliament and of the Council of 29th April 2004 on the hygiene of foodstuffs.
- Regulation (EC) No. 853/2004 of the European Parliament and of the Council of 29th April 2004 laying down specific hygiene rules for food of animal origin.
- Regulation (EC) No. 882/2004 of the European Parliament and of the Council of 29th April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.

Below follows a short description of the central legislation and provisions that have bearing on food banks.

5.1.2 General

Today the food legislation within the EU is harmonized. Since 2002 there is a general food law; Regulation (EC) No. 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (hereafter Regulation (EC) No. 178/2002).³ The regulation constitutes the basis for the union food legislation. In Article 1 the aim and scope of EU-food law is highlighted. According to paragraph 3: *“This Regulation shall apply to all stages of production, processing and distribution of food and feed. It shall not apply to primary production for private domestic use or to the domestic preparation, handling or storage of food for private domestic consumption.”*

Article 3 contains definitions and Article 3, point 2 defines *food business* as any undertaking, whether for profit or not and whether public or private, carrying out any of the activities related to any stage of production, processing and distribution of food. In recital 9 of Regulation (EC) No. 852/2004 on the hygiene of foodstuffs it is said that “community rules should [...] apply only to undertakings, the concept of which implies a certain continuity of activities and a certain degree of organisation”. In Article 3, point 8 “placing on the market” is defined. “Placing on the market” means the holding of food for the purpose of sale, including offering for sale or any other form of transfer, whether free of charge or not, and the sale, distribution, and other forms of transfer themselves.

In Article 14, paragraph 1 it is stated that food shall not be placed on the market if it is unsafe, and in article 17 that food business operators at all stages of production, processing and distribution within the businesses under their control shall ensure that foods satisfy the requirements of food law which are relevant to their activities and shall verify that such requirements are met.

³ Regulation (EC) No. 178/2002 of the European Parliament and of the Council of 28th January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

5.1.3 Traceability of food

Since 1st January 2005 the EU provisions on traceability of all production of feed and food, and the requirements are arising from Regulation (EC) No. 178/2002. Article 3, point 1 defines traceability as the ability to trace and follow food, feed and ingredients through all stages of production, processing and distribution. Article 18 outlines the main requirements on traceability for food business operators.

Food business operators must use their own check systems to ensure that the traceability covers one link forward and one link back between operators in the food chain. It is the food business operators' responsibility to ensure that traceability is secured, and that they can document from where they have received a given product and to whom they have sold a product.

Traceability is important in detecting which operators have bought specific products, if a product is unsafe according to Article 14 and thus must be withdrawn from the market. Traceability is also crucial for tracing the source of infection to a food borne illness in a product. The rules on traceability arose in the wake of scandals in the 1990s with BSE and dioxin in food. The rules are common for all EU Member States.

5.1.4 Food Hygiene

On basis of the general food law a vast number of legal acts have been adopted. Central is Regulation (EC) No. 852/2004 on the hygiene of foodstuffs (hereafter "the Hygiene Regulation") that lays down general rules for food business operators on the hygiene of foodstuffs.⁴

In Article 3 of the regulation the general obligation for food business operators is laid down. The provisions states that "Food business operators shall ensure that all stages of production, processing and distribution of food under their control satisfy the relevant hygiene requirements laid down in this Regulation". The article also states that food business operators shall, as appropriate, adopt certain specific hygiene measures. These measures are to comply with microbiological criteria for foodstuffs, procedures necessary to meet targets set to achieve the objectives of the regulation, compliance with temperature control re-

⁴ Regulation (EC) No. 852/2004 of the European parliament and of the Council of 29th April 2004 on the hygiene of foodstuffs.

quirements for foodstuffs, maintenance of the cold chain, and sampling and analysis.

According to Article 5 food business operators must apply the *Hazard analysis and critical control points* (HACCP). This means that the operators shall identify any hazards that must be prevented, eliminated or reduced to acceptable levels and have a system for how to handle the hazards.

Annex II to the regulation contains the general hygiene requirements to all food business operators except when Annex I applies (i.e. primary producers). Chapter I contains general requirements for all food premises e.g. that premises shall be kept clean. Chapter II contains specific requirements to rooms where foodstuffs are prepared, treated or processed whereas Chapter IV contains requirements to transport. In paragraph 7 it is stated that where necessary, conveyances used for transport of foodstuffs must be capable of maintaining foodstuffs at appropriate temperatures and allow monitoring of temperatures. In chapter IX, provisions applicable to foodstuffs, like requirement to cold chain is found. In paragraph 5 it is said that raw materials, ingredients, intermediate products and finished products likely to support the reproduction of pathogenic micro-organisms or the formation of toxins must not be stored at temperatures that might result in a risk to health. The cold chain must not be interrupted.

Regulation (EC) No. 853/2004 has specific hygiene rules for food of animal origin.⁵ The scope of the regulation is given in Article 1: “This Regulation lays down specific rules on the hygiene of food of animal origin for food business operators. These rules supplement those laid down by Regulation (EC) No. 852/2004” which for example contains specific temperature requirements for storage and transport that can be applicable on a food bank that handle food of animal origin.

5.1.5 Registration and control

Article 6, paragraph 2 in the Hygiene Regulation requires food business operators to be registered with the competent authority (i.e. the authority that carry out official controls).

The purpose of registration is to allow the competent authorities to know the food activities and location of the food business operators in

⁵ Regulation (EC) No. 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin.

order to carry out official controls. Food business operators must also ensure that the competent authority always has up-to-date information on establishments, including by notifying all significant change in activities and eventual closure of existing establishments.

5.1.6 *Labeling*

One challenge regarding food donation for charity purposes is connected to labeling requirements. Foodstuffs donated for charity purposes have to be safe and suitable for human consumption. Foodstuffs labeled with “used by date” have to be donated so that the clients can use them before the date has expired. The idea of “best before date” is more flexible, but some EU member states have equally or near to equally as strict rules for both. In the Nordic project Subproject II focuses merely with how food labeling is practiced in the Nordic industry. If the foodstuff is microbiologically perishable it is mandatory to label the products with “use by date”. Microbiologically perishable products are for example unpasteurized milk and cream, cheese made of unpasteurized milk, raw meat, minced meat, raw meat products, raw and cold smoked fish and some other products which are not produced with heat treatment or which do not contain preservatives.

In practice the legislation gives the producer some degree of freedom to choose between the types of the date. When talking about perishable foodstuffs it is quite usual that producers choose “use by date” also in the cases where it is not a legal obligation. Those types of products could be safe to eat even when the “use by date” has passed. In Norway, there has been a clear trend to change from “used by date” to “best before date” for many food products, both dairy products and meat products. Food donation can be possible to handle in those cases with the permission to freeze food products before the used by date has passed. In some cases, freezing may however also be dangerous. If listeria risk products like cold smoked fish are frozen close to the “use by date”, the only safe way of using them after thawing is to make well heated food .

5.1.7 *Are food banks within the scope of EU food law and hygiene regulations?*

When considering if a food bank must comply with EU food law and hygiene regulations, one must ask the question if food banks fall within the scope of the legislation. According to Article 2, point 2 in Regulation (EC) No. 178/2002 “food business means any undertaking, whether for profit

or not and whether public or private, carrying out any of the activities related to any stage of production, processing and distribution of food”. Furthermore “placing on the market” is defined in Article 3, point 8 as “the holding of food or feed for the purpose of sale, including offering for sale or any other form of transfer, whether free of charge or not, and the sale, distribution, and other forms of transfer themselves”.

Food banks and all types of food *redistribution* must, according to this provision, be considered as placing food on the market like any other food business organisation, although food banks only have the purpose of transferring donated food to charity organisations. In Norway, the food bank has been defined as an end user, which have some implications for how food redistribution is regulated compared to other Nordic countries.

Hence, a food bank is by definition an undertaking that receives food-stuffs and redistributes it to others and is therefore considered as food business operators, whether it distributes food for profit or not. This means that food banks, like other food businesses, normally are required to comply with the different provisions described above.

5.1.8 *The Good Samaritan law model*

As stated above the food business operator is responsible for the food the operator places on the market. To make it easier for food business operators to donate food to charity organisations and to fight food waste, some countries like Italy and the United States have national legislations that allows those who in good faith donates food and grocery products that they know will be fit for consumption at the time for the donation.⁶

⁶ Information from Fédération Européenne des Banques Alimentaires (FEBA); www.eurofoodbanks.eu

5.2 National measures to make food redistribution possible

5.2.1 Sweden

Relevant legislation – Food banks in Sweden

- Swedish Food Law (2006:804).
- Swedish Food Decree (2006:804).
- The National Food Agency's regulations – Code of Statutes, LIVSFS.
 - a) LIVSFS 2005:21 on official controls.
 - b) LIVSFS 2005:20 on food hygiene.

This activity falls within the harmonized food law area. Sweden does not have any national regulation concerning food banks. Food banks therefore fall within the scope of the definition of food businesses, in accordance with Regulation (EC) No. 178/2002. As noted above food banks have to comply with the requisites in the food legislation (for instance, the requisites in the hygiene regulations) provided they intend to put the food on the market in any way.

According to 23 § of the Swedish Food Decree (2006:813) this type of food establishment falls within the category "other food establishments" and is to be registered with, and controlled by the municipal committee, which is the competent authority in this case. This requires though that the food bank (like any other undertaking) has a certain continuity of activities and a certain degree of organisation. Otherwise the undertaking does not fall within the scope of the Regulation (EC) No. 853/2004 of the European Parliament and of the Council on the hygiene of foodstuffs. The National Food Agency has laid down its interpretation of these terms in a guideline on approval and registration of food establishments.⁷ In the guideline it is stated that by certain continuity should be understood a certain regularity, and that does not cover accidental occurrences.

If an undertaking holds a stock of foodstuffs permanently to later release it on the market, this should be seen as there is certain continuity, even though the actual releasing on the market not happen more than a couple of times per year.

⁷ Vägledning till kontrollmyndigheter m.fl. om godkännande och registrering av livsmedelsanläggningar, latest version 2013-11-29.

5.2.2 Regulatory barriers

Establishing food banks

As stated above, in Sweden there are not, from a food law point of view, any differences between a food bank and other food businesses. Hence, food banks must comply with the relevant provisions in the food legislation when releasing food on the market. This applies also on more unorganized food banks such as charity organisations which deliver food to people in need.

The Swedish food legislation does not put up any regulatory barriers for the establishment of food banks.

Donating food to organized food banks

The food business operator that donates food to a food bank (or, for that matter, directly to the needing) is responsible for the safety of the food. There is no national legislation corresponding to *the Good Samaritan Law principle* in Sweden.

National regulatory barriers in general – Relabeling

When it comes to labeling there are certain provisions in LIVSFS 2005:20 (15–16 §§) that indirectly can hinder donations of foodstuffs close to best before date or use by date and therefore be waste driven. The provisions states that prepacked foods labeled with “best before date” or “use by date” and which are not re-packed due to, for example, damages on the wrapping, must not be re-labeled with a later date. If prepacked foods labeled with “best before date” or “use by date” is treated in a way that extends its life it is allowed to relabel with a later date. If the foodstuff is deep frozen this must be done before the foodstuff is transferred to a premise that sells the foodstuff directly to consumers.

5.2.3 Finland

In Finland there are no national official food banks. All food donated to charity purpose goes straight from food business operators to charity organisations or straight to final consumers.

Food banks are considered to be food business operators even if they just act as an intermediary in the food donation chain. They have to register into local food control authority which puts them into so called “kuti”-system (central it-register for local authorities’ control targets, that means food premises and approved establishments except slaughterhouses and connected establishments). Food banks will be registered as wholesale operators.

Wholesale is part of retail trade sector consisting of distribution terminals, wholesale supermarkets, distribution stores, and approved store establishments. Wholesale stores have to apply for approval of store establishment if it handles foodstuffs of animal origin and sells them to approved milk, fish or meat establishments. If it produces e.g. minced meat, part of the store also has to apply for approval as meat establishment.

Food banks are classified as distribution terminals or distribution stores depending on how long foodstuffs are stored. They do not need to apply for store establishment approval. Food banks have to follow the structural and operational requirements of Regulation (EC) No. 852/2004 annex II. They also have to follow the temperature requirements of Regulation (EC) No. 853/2004 concerning storing of raw fish, raw meat, organs, poultry meat, minced meat, raw meat products, egg products and milk. Furthermore food banks have to follow the national food act 23/2006 and decree of hygiene requirements in food premises 1367/2011. If personnel in food bank handles unpacked perishable foodstuffs, they have to pass hygiene proficiency test. Food banks must have shelf-check plan to have control of all the risks they have in their operation. Cold chains have to be unbroken, when required.

Charity organisations delivering perishable foodstuffs to final consumers are classified as food premises dealing with retail. They are obliged to register into local food control authorities' register if they deliver perishable foodstuffs regularly. They are registered as selling premises if they donate foodstuffs straight to final consumers and as serving premises if they prepare and serve meals to the consumers. Charity organisations should follow the structural and operational requirements of Regulation (EC) No. 852/2004 annex II. They should also follow the national food act 23/2006 and decree of hygiene requirements in food premises 1367/2011. If personnel in charity organisations handles unpacked perishable foodstuffs, they should pass hygiene proficiency test. Charity organisations should have shelf-check plan to have control of all the risks they have in their operation. Cold chains have to be unbroken, when required.

In the guidance from Evira (Finnish Food Safety Authority) on how to deliver foodstuffs to food aid there is derogation for local authority that they do not need to control premises dealing with donated foodstuffs. Control is an obligation only if required, e.g. if somebody complains operation of the premises based on donated food. Control is always charged in Finland and control costs would be too expensive for these premises with the consequence that they could not operate.

Barriers in legislation

Foodstuffs in charity chain have to be suitable and safe for human consumption. Every food operator in food producing chain who donates foodstuffs to charity purpose has its responsibility of the food safety. Also food banks and charity organisations are responsible for the safety of the foodstuffs they handle. The whole food production chain and all different kinds of food business operators, including primary producers, refiners, storage operators, retailers, institutional caterers, restaurants, movable and temporary premises may donate foodstuffs to charity purpose. Food aid may be distributed to consumers either via charity organisations or directly by food business operators.

In normal retail process there are restrictions when selling foodstuffs from retail shops or kitchens to another retail premise or to approved establishment. The restriction concerns food of animal origin. It is possible to distribute 30% of food of animal origin produced in retail to another retailer if the producing retailer sells 70%. It is forbidden to sell food of animal origin from retail to approved establishment. These retail distribution restrictions do not concern food banks as wholesale operators.

Normally foodstuffs with wrong labeling have to be taken out of the market or the labeling have to be revised. In Evira guidance on how to deliver foodstuffs to redistribution, there is derogation for the charity food chain that it is allowed to donate foodstuffs with wrong or insufficient labeling if it does not cause danger to the final consumer and the information of the deficiencies is connected to the product. It is permissible to pack meals and other loose foodstuffs for charity purpose to be delivered to the final consumer.

Foodstuffs with use by date have to be donated so that the consumers have the possibility to use them before the date is expired. The alternative is that these foodstuffs are frozen before the date has expired and after freezing, food banks have two months time to deliver them to charity organisations and these organisations to the final consumer. Cold smoked and salt cured fish is out of this derogation because of the danger of listeria. Freezing of foodstuffs in retail sector is somehow grey area in legislation, but Evira guidance allows it to charity purpose. In EU there is legislation only how the quick-frozen products have to be manufactured, no legislation of storing by freezing.

Derogation for the use by date labelled products has been given in Evira guidance to the charity organisations that serve meals to the final consumers. They may use the products after the use by date is expired by one day as ingredient for meals, provided that the products are heated to a temperature of at least 70 degrees Celsius when cooked.

5.2.4 Denmark

In Denmark all food business operators are as a main rule required registration or approval according to Regulation (EC) No 853/2004.

The EU legislation is supplemented by the Danish Act on Food and the Danish Order on Approval and Registration of Food Business Operators Etc.

According to Section 7 (2) in the Order, all food business operators must register or seek approval by the Danish Veterinary and Food Administration (DVFA). However, food business operators who fall under the scope of registration due to limited food activities are not required to register or seek approval by the authority.

The main activities of food banks are to receive and donate food to charities. As the food typically is kept a short time and directly delivered to consumers or to retail food businesses, who directly supply the consumers, food banks activities are considered retail.

Retail food business includes both ordinary retail food businesses such as shops, restaurants ect. supplying food directly to the final consumer, and retail food businesses supplying food to other retail food businesses, e.g. distribution terminals and wholesale supermarkets. In Denmark there are two categories in the retail trade:

- Ordinary retail food businesses such as convenience stores, drugstores, supermarkets, restaurants and canteens.
- Retail food business with wholesale such as distribution terminals and wholesale supermarkets.

In Denmark food banks are registered as retail food business with wholesale. As a main rule ordinary food businesses may not supply food to food businesses in the group retail with wholesale or to wholesale food businesses. However, it has been accepted that retail food business operators may supply to a food bank.

At present Denmark has registered one food bank (fødevareBanken). The Danish food bank collects and redistributes food from both wholesale and retail and delivers to charity organizations. The food is not de-

livered to the final consumer. The food is redistributed to organizations which serve the food for socially disadvantaged. The organizations which receive the food are often registered as retailers in the form of a food serving business

Potential regulatory barriers for donations of food to food banks

FødevareBanken distributes food to charities. This means that the rules laid down in the general EU food legislation and the rules in the Hygiene Regulation and the hygiene rules for food of animal origin also apply to food banks.^{8, 9} In addition there are national rules in relation to storage temperatures of food in retail food business and in relation to approval and registration of food business operators that a food bank must comply with.^{10, 11}

Food must also meet the market standards, which means they must be suitable to consumption. This means for example that it would not be accepted if a supermarket donates a bag of oranges where one of the oranges is musty. Food banks may only receive this bag if the musty orange has been removed. Eventual sorting has to be done at the donors site (retail food business), but can be done by people from food banks. It will require derogations from EU rules on hygiene and market standards if the sorting should be done by food banks at its own place, or if it is done by the recipients of the donated food.

Who is allowed to donate food to food banks

Regardless that the activities of retail food business with wholesale are defined as retail food business, food banks are in this specific context defined as *wholesale*. This means that food business like food banks must pay for the official controls in contrast to the ordinary retail establishments. Another effect is that ordinary retail food businesses normally cannot deliver food to food businesses in the group retail with wholesale. Supermarket chains typically have a distribution terminal from where the goods are delivered to the individual retail shops. The supermarkets must generally not return unsold goods to the distribution terminal. The Danish Veterinary and Food Administra-

⁸ Regulation (EC) No. 852/2004 of the European Parliament and of the Council of 29th April 2004 on the hygiene of foodstuffs.

⁹ Regulation (EC) No. 853/2004 of the European Parliament and of the Council of 29th April 2004 laying down specific hygiene rules for food of animal origin.

¹⁰ Order No. 788 of 24th July 2008 on the hygiene of foodstuffs.

¹¹ Order No. 1365 of 9th December 2013 on the approval and registration of food business operators etc..

tion has, however, accepted that ordinary retail food businesses can deliver food to food banks.

Denmark has also rules restricting the supply of food from one retail food businesses to another.¹² For non-animal food the value of the delivery is limited to any amount up to 2/3 of the value of the total sales of non-animal food. For food of animal origin the value of the delivery is limited to 1/3 of the value of the total sales of animal food, and as a general rule the food of animal origin can only be delivered to other retail food businesses within a 50 km radius.

Table 2: Regulatory system for redistribution of food from retail sector to food banks in Denmark for products of animal and non-animal type

Supplier Receiver	Wholesale	Retail with wholesale	Ordinary retail	Retail below the minimum limit
Wholesale	+	-	-	-
Retail with wholesale	+	+	1/3 and 2/3 rules ¹³	-
Ordinary retail	+	+	1/3 and 2/3 rules	-
Retail below the minimum limit	+	+	1/3 and 2/3 rules *	+

+: Allowed to deliver food between given actors in the food supply chain.

-: Not allowed to deliver food between given actors in the food supply chain.

*: Principally, 1/3- and 2/3 apply, but when the recipient are not registered, the supplier may not always know that the receiver is a food business.

For food of animal origin the restriction on delivering from retail to retail is an implementation of Article 1 (5) point b, ii), in Regulation (EC) No. 853/2004 according to which delivery of food of animal origin from one retail food business to another must be a marginal, localized and restricted activity.¹⁴

For the non-animal food the limitations are purely national legislation and they are introduced because the ordinary retail food businesses do not pay for the official control, while other retail food businesses do. At EU level it is possible to work for a common position so the donation of food to charity can be allowed without any of the restriction in the EU legislation as described above.

¹² Order No. 1365 of 9th December 2013 on the approval and registration of food business operators etc., 14 §.

¹³ The Danish Veterinary and Food Administration has accepted that retail businesses can deliver to retail businesses with wholesale when the food goes to charity.

¹⁴ Regulation (EC) No. 853/2004 of the European Parliament and of the Council of 29th April 2004 laying down specific hygiene rules for food of animal origin, article 1.5, point b, ii).

Donations from food businesses below the minimum limit

At larger events such as musical festivals, food businesses under the minimum limit often sell food to the visitors. A food business is under the minimum limit, if it does not imply a certain continuity of activities and a certain degree of organisation.¹⁵ In Denmark the number of times food activity takes place, the amount of food sold and the value of the turnover of the food is essential factors for categorisation.¹⁶ Food businesses that are below the minimum limit are not registered and the official control does not come to visit. As there is no regular official control of the food businesses below the minimum limit, this type of companies usually do not provide food to food businesses above the minimum limit.

Denmark has accepted that food from festivals can be delivered to charities. The food must be unopened and have been stored properly. However, this requires special permission at The Danish Veterinary and Food Administration.¹⁷ At EU level it is possible to work for a common position for these types of donations.

5.2.5 Norway

Norway has at present one food bank (Matsentralen), where the food authorities participated actively in developing the concept for and establishing the food bank in 2013.

The legal basis behind the Norwegian Food Bank is that the storage and redistribution of food must secure that food safety is not compromised. All food that is served or donated shall have good quality in accordance with food safety standards. Food redistribution shall be a solution where all types of ideal/voluntary organisations, food producers, wholesalers and retail companies can collaborate. A Food Bank shall not be a competitor to conventional commercial production and sale of food and beverages, but a supplement.

The Food Bank has been committed to operate within present food hygiene regulations, without special needs for derogations from the standard regulations to operate. Important conditions to operate a food bank is legally defined in the Regulation (EC) No. 852/2004 on food hygiene, in-

¹⁵ Regulation (EC) No. 852/2004 of the European Parliament and of the Council of 29th April 2004 on the hygiene of foodstuffs, where-as-clause 9.

¹⁶ Guidance No. 9789 of 10th December 2013 on the approval and registration of food businesses etc., section 6 and 7.

¹⁷ http://www.foedevarestyrelsen.dk/Foedevarer/Hygiejne_og_indretning/Sider/Saadan-undgaar-du-madspild-pa-festivaler.aspx

cluded in the regulation of 22th December 2008 No. 1623 on Food Hygiene. The preconditions for the activities in the Norwegian Food Bank is that donated food shall not be packed or repacked or relabelled, making other regulations less relevant for the operation of the Food Bank.

Opportunities for freezing of packed fresh products (micro-biologically perishable foodstuffs) from retail shops might be of high importance for the charity organisations being responsible for redistribution of food. As the food will not be distributed and sold under new labels as “frozen food”, the spesific regulations about freezing of food (EU regulation on freezing of food) will be irrelevant. All food labelled with “use by date” must be frozen before this date has passed, keeping all original informations on the product. Products labelled with “best before date” have no limit on the date for freezing. As the food bank is the owner of donated products, it is responsible for deciding if products shall be frozen or not before redistribution. As supermarkets and wholesale centers are assumed to have better freezing capacity, it is recommended that they freeze the products labelled with “use by date” before donation.

A food bank is defined as an independent food business organisation, with the normal requirements to management structure, responsibilities in the organisation and reliable quality systems. In Norway, the food bank has been defined as an end user which have some implications for how food redistribution is regulated compared to other Nordic countries. Food banks must be registered and controlled by food authorities without any charges, and is defined as a non-profit end user responsible for usage of the food. There are no formal restrictions on which type of food that can be redistributed, neither on how the time before being eaten. Food banks have to consider this within their own quality systems.

So far, it has been registered very few barriers or problems with regard to redistribution of food by Matsentralen. There was a discussion between Matsentralen and the regional Food Safety Authority in Oslo about about how many days before expiry of use-by date that retail shops could donnor food. This was clared out in the autumn 2014.

5.3 Potential for clarifications in Nordic regulations and measures

Based in the overviews given for EU regulations and national regulations that are relevant for both types of redistribution of food that is covered by this study, some recommendations and conclusions can be drawn:

- Food banks should be regarded as food business operators according to regulations, and should thus follow the same overall rules as other types of businesses in the food supply chain. However, the four Nordic countries included in this study have defined food banks different with regard to the role in the supply chain, which in the next hand can give quite different situations with regard to what is accepted and not to be redistributed. The role of food banks in redistribution of food in the Nordic countries should be further discussed in Phase II of the project.
- Direct food redistribution is in many cases not specifically mentioned in the survey of regulatory measures, making it unclear how national regulations and rules relates to charity organisations getting food directly from the food supply chain. This should be clarified and harmonised as far as possible.
- With the exception of Finland, it is not stated clearly if food donation is allowed from all parts of the food supply chain. This should be clarified as far as possible, to make safe donations possible from all parts of the chain.
- There are different rules for exchange of food, especially of animal origin, in Finland and Denmark from Sweden and Norway. This should also be clarified in the next phase of the project.
- It should be made clear if, for which types of food and under which preconditions, food can be repacked and relabelled for redistribution. This should also be clarified and harmonised as far as possible.
- Only Finland has developed national guidelines for redistribution of food, stating clearly that the whole food supply chain is involved and that redistribution is both allowed and wanted from national authorities.
- The role of food banks and redistribution of food in relation to environmental regulations and politics has not been covered in this survey. This will be discussed in Chapter 7.6 and 8.1 in the report, as food banks could take roles as “system operators” for redistribution and prevention of food waste nationally.



6. Food banks – experiences from Nordic countries

6.1 Status on establishment of food banks in the Nordic countries

By the end of 2013, there were three food banks operating on national levels in the Nordic countries:

- fødevareBanken in Copenhagen, Denmark.
- Allwin in Gothenburgh, Sweden.
- Matsentralen in Oslo, Norway.

As we will see in this chapter, the three food banks have quite similar functions with regard to redistribution of food, but have quite different history and organisational structure.

6.2 Organisation of food banks – experiences

The three food banks that exist in the Nordic region have quite different background and have also quite different models for organisation and ownership (Table 3). The Danish and Swedish food banks have been established and further developed based on personal initiatives, whereas the Norwegian food bank was initiated by the retail company Norgesgruppen in collaboration with the Ministry of Food and Agriculture.

The founding process of the three food banks was also quite different. The Danish and Swedish food banks have been established and developed in a continuous process, whereas the Norwegian food bank was established after two years with planning. The planning process included both national food authorities, retail companies, food manufacturing companies, charity organisations, as well as research institutes. In the last phase, the project was coordinated by the ForMat project in Norway, which is a national project to prevent food waste (see www.matavfall.no). The results of the planning process are published in two reports, which have been the

basis for establishment of the food bank (Høiner *et al.* 2011, Stormoen & Ellingsen 2012).

The three food banks have also developed quite different business models, where the Swedish one is a social foundation with redistribution operated through a private limited company, the Danish one a membership organisations with more than 300 members and the Norwegian one a cooperative organisations mostly owned by the national charity organisations, but also with a number of members. All three food banks were established with a two-sided purpose, both to reduce food waste and to make it easier for charity organisations to get access to food donations. This two-sided basis probably reflects the fact that the Nordic food banks have been established late compared to other countries in Europe (2006–2013), in a period where food waste prevention was much higher on the agenda than when most food banks were established.

Table 3: Overview of background and organisational structure of Food Banks in Denmark, Norway and Sweden

	fødevareBanken, Copenhagen	Matsentralen, Oslo	Allwin, Gothenburg
Year established	2006	2013	2010
Initiator of the food bank	Thomas Fremming as a private person	Retail company Norgesgruppen in collaboration with Ministry of Food and agriculture	Simon Eisner as a private person
Main reasons for establishment	First of all food security, but also food waste prevention	Combined for food waste prevention and food security	Combined for food waste prevention and food security
Owner of the food bank	Members (about 330) are the owners	Five larger charity organisations in Norway and a number of members	The Foundation "Gemensamt Engasjement"
Organisation type	Membership organisation	Cooperative organisation	Limited Company owned by the Foundation

The three food banks do also differ with regard to number of employees and volunteers, which is quite natural taken the length of operation into consideration. FødevareBanken in Copenhagen has a much bigger organisation than Matsentralen, with 5 full time and 3 part time employees and 45 volunteers in 2013 which has increased to 9 full time and 5 part time employees and 70 volunteers in 2014 (Table 4). In Norway, there are two employees, whereas the manager has a management for hire contract on a 50% position. Allwin has only employed personell, with four persons working totally about 3 man years. All three organisations have struggled with low income, as the membership fee or income from food companies only cover part of the budget and the turnover depend on support from

business partners, financial foundations and national authorities, which will be reduced over time. The situation in Denmark has been improved the last year, since a big private foundation (Velux foundation) has supported further development of the organisation for a given time period. This has resulted in both a big increase in turnover, as well as in a net positive margin. In Norway, there are also some time-limited support from private foundations in the start phase, and there is a need to increase income from other sources in the years ahead. Allwin get no support from organisations nor Swedish authorities, and the income is based on payment from food companies and retail companies to manage food that otherwise would have been wasted, and to a higher prize than redistribution. This will also be the model for future operation of Allwin, where costs per ton of food redistributed will be reduced as volumes increase (S. Eisner pers. comm.).

Table 4: Overview of economic and employee data for Food Banks in Denmark, Norway and Sweden

	fødevareBanken, Copenhagen	Matsentralen, Oslo	Allwin, Gothenburg
Number of employees and volunteers	8 employees, 5 full time and 3 part time 45 volunteers (about 2–3 man years)	2 employees and 1 engaged person (CEO) 3 volunteers working part time	4 employees (project leader, drivers, storage, economy), total 3 man years. No volunteers.
Total turnover 2012 and 2013	2012: DKK 2.7 mill 2013: DKK 7.96 mill	2013: NOK 4.54 mill *	2012: SEK 0.86 mill 2013: SEK 1.1 mill
Net margin 2012	2012: 43 2013: DKK 3.47 mill	2013: NOK 2.46 mill *	2012: SEK -94,000 2013: SEK -214,000

*4 month operation from September to December.

6.3 Food redistribution through food banks – volumes per year

The three food banks redistributed in 2013 about 900 tonnes of food, that otherwise would have ended as food waste. FødevareBanken in Denmark was the largest of the three with about 426 tonnes redistributed and Allwin the second largest with about 300 tonnes (Table 5), but Matsentralen in Oslo had only been in function for four months in 2013. Already after 8 months operation, Matsentralen redistribute in average 50 tonnes of food per month or an estimated 600 tonnes per year. It has been estimated that the potential for redistribution through the food bank in Oslo is about 1,000 tonnes per year (Stormoen and Ellingsen

2012). The number of meals served based in redistributed food has been estimated to about 1.67 mill in 2013, with about 926,000 in Copenhagen, 346,000 in Oslo and 400,000 in Gothenburg. Based in the figures, it is quite clear that the food banks are relatively more important for food security to low income people than to prevention of food waste, although the rapid growth in redistributed food by Matsentralen in Oslo indicate that there is a higher potential. However, the combined effects make food banks important actors also with regard to food waste prevention, and as one of several initiatives that are needed to cope with the food waste problem in society. Food redistribution can also be seen as a positive message to organisations to manage their surplus food.

Table 5: Overview of amounts of redistributed food, meals and clients served from Food Banks in Denmark, Norway and Sweden

	fødevareBanken, Copenhagen	Matsentralen, Oslo	Allwin, Gothenburg
Amount of food redistributed	2012: 320 tonnes 2013: 426 tonnes	2013: 173 tonnes*	2012: 250 tonnes 2013: 300 tonnes
Number of meals served based in food from the food bank (estimates)	2012: 762,000 2013: 926,000	2013: 346,000**	2012: 400,000 2013: 500,000

*4 month operation from September to December.

** Estimated based in tonnes of food redistributed.

6.4 Collaboration with food donors and charity organisations – experiences

As is seen in Table 6, the most important donors to the food banks today are food producing companies and to some extent wholesale companies, and mainly from the surrounding area of the cities where the food banks are located. In Norway, it was a clear intention to get also retail shops involved as food donators (Høiner *et al.* 2011), but this has so far proven more difficult as foreseen, due to logistic reasons. The same experiences are seen in Copenhagen with fødevareBanken. As it mostly are food producers in the neighbourhood to the food banks that donate food, it is quite clear that there are big amounts of food that is not covered by the food banks today, and that either is collected by the charity organisations themselves or is a potential for increased amount of food being donated.

Food banks are often seen as a type of “warehouse for redistribution”, as they are not themselves organizing serving of food directly to

clients. Both fødevareBanken in Copenhagen and Matsentralen in Oslo have been able to establish a large network of local charity organisations, not only in Copenhagen and Oslo, but over larger geographical areas. The “success formulae” for Matsentralen is certainly the involvement of national charity organisations in planning of and establishment of the food bank, which has made it possible to develop collaboration with local organisations quite rapidly.

In general, there have not been problems with the quality of food being donated, as the regulations on this are the same as for normal food distribution (see Chapter 5). The problem is more to receive fairly stable amounts of food and to have a sufficient variety of food types. The food banks do both have capacity to receive more food and there is a need for more food for redistribution, so there is potential for increase in redistribution in the future.

Table 6: Overview of main donators and receivers of redistributed food from Food Banks in Denmark, Norway and Sweden

	fødevareBanken, Copenhagen	Matsentralen, Oslo	Allwin, Gothenburg
Main donors of food for redistribution	Mainly from food producers, wholesale companies and agriculture. Only a small amount from retail shops	Mainly food producers and wholesale companies. New solutions have been made to more efficiently receive food from retail shops" as the storage facilities are improved and new and smaller vehicles are in place to ease redistribution from retail shops	Food producers and retail companies
Main receivers of food for redistribution	37 organisations are the main receivers, with a total of 140 organisations well distributed in 2013	Three big charity organisations are main receivers, with a large number of serving locations, quite evenly distributed between Oslo (55) and the rest of SE Norway (47)	Swedish Church and 10–15 local organisations in Gothenburg serving food to homeless people
Problems with food donated	In general no problems with the quality of food being donated, but a little is declined. Variation in amounts over time a big challenge	In general no problems with the quality of food being donated	Less than 1% of the food donated has problems with quality

6.5 Collaboration with other initiatives nationally and locally – experiences

Both in Copenhagen and Oslo, the food banks collaborate already with a number of local charity organisations and have already a function as national redistribution centres, at least for the region around them. Allwin support mostly charity organisations in the Gothenburgh region and do also receive most food from the retail sector and food industry in the same region. Allwin is planning to establish redistribution activities also in Stockholm in the future (S. Eisner pers. comm.). In Oslo, Matsentralen deliver to as many organisations around Oslo as within Oslo, although this not necessarily reflects the amounts being redistributed. Many local organisations do also see a big potential by collaborating with the food banks, to make it easier to get access to donated food, especially from the larger food producers and the central wholesale companies. The food banks have better capacity both for transport and storage of larger amounts of food, and can more easily take care of larger volumes of food. At present the food banks are mostly able to receive food from food producers around their own locations, although there is a potential for redistributing higher amounts from food producers and wholesale centres also in other parts of the country.

6.6 Contact with authorities nationally and locally

In general, there seems to be little or no contact between food banks and relevant authorities, both nationally and locally (Table 7). FødevarerBanken has received some basic funding from Ministry of Social Affairs, and both the Ministry of Food and Agriculture and Ministry of Health were actively involved in the planning of Matsentralen in Oslo. However, there seems to be quite a low engagement from most authorities in development of food redistribution both on the national and the local arena. FødevarerBanken had more contacts with the food authorities in the early days of establishments than today. One should eventually have expected a stronger involvement and commitment from the Social Security authorities, as the food banks certainly are and will be very important for the charity organisations operating food serving for low income people.

Table 7: Collaboration with authorities by Food Banks in Denmark, Norway and Sweden

	fødevareBanken, Copenhagen	Matsentralen, Oslo	Allwin, Gothenburg
Contact with food authorities	No direct contact established	Involved in establishment of the Food Bank	No direct contact established
Contact with environmental authorities	No direct contact established – participate in workshops organised by MoE	No direct contact with environmental authorities	Good contacts through collaboration in the SaMMA project
Contact with social security authorities	Basic funding from Ministry of Social Affairs	No direct contact established	No direct contact

6.7 Overall lessons to be learned

The main lessons learned from this brief overview of food banks in Nordic countries are that they are a small, but important actor in food waste prevention. It is necessary to develop and implement a number of different measures to prevent food waste from the food chain, and food banks definitely have the potential to increase their roles as “redistribution centres”. In Norway, about 140,000 tonnes of food waste is generated in total from the food industry and the retail sector (Hanssen & Møller 2013), which means that the food bank at present prevent about 0.7% of total food waste through redistribution. In this picture, it is however important to consider the important role for food security for low income people, which gives redistribution a double role in the society.

It is important that food banks find their role between the food sector and charity organisations, to supplement and not compete with the existing systems for redistribution locally. With a more decentralised system with food banks available in the large cities or in regions with high volumes of food production, the food banks can support the charity organisations over larger areas than is the situation today. The food banks could also take the roles as “system operators” for redistribution of donated foods and be national competence centres for all actors being involved in food redistribution. The food banks can also be responsible for some type of certification of actors being involved, by developing and assisting in implementation of quality systems for redistribution, based in guidelines from food authorities. Such quality systems would probably make it easier for the food sector to operate openly as donators of food to redistribution.

However, as the few national food banks already struggle with low incomes and low support from national authorities, it is important to consider how the food banks should be financed. As one of the main motivations for organising food banks for redistribution of food is food security

for low income people, it seems logic that social security authorities should take a much more active role to finance their activities. Food banks and food redistribution is also good job opportunities for people with special needs as employees and for social clients living in institutions organised by charity organisations. The food sector can also benefit financially from food redistribution, by reducing their costs to waste treatment. If this is possible in practise is however not documented.

At present, there are “official” food banks only in Norway and Denmark and a private initiative in Sweden, whereas Finland has no food banks at all. Based in experiences from this project, it should be discussed to have at least one food bank established in each of the Nordic countries, which means that there should be established at least one food bank in Finland. Experiences from the process of planning and establishment of the Norwegian food bank which in a very short time have succeeded in redistributing large amounts of food can be helpful for the process of establishing national food banks also in Finland. The model with real involvement of the three main types of stakeholders in planning and managing food banks; charity organisations, food sector and authorities, can also be a good model for how to organise food banks in other countries, and is also recommended from the Toolkit developed by the Global Foodbanking Network. Experiences from developing more regional food banks in Denmark in the next couple of years can also be valuable for other countries. Increased collaboration between Nordic food banks as well as exchange of knowledge and experiences would be worthwhile for all countries and should be encouraged by the Nordic Council of Ministers.



7. Food redistribution at the local/regional levels

7.1 General introduction to the survey

The national surveys were carried out in parallel during the winter/spring 2014, based in a common research approach and with the same questionnaires applied in all countries (see Chapter 4). As this survey is the first attempt to get an overview of direct food redistribution in any Nordic country, it should be regarded as a pilot study where the aims were both to establish a methodology for the survey as well as getting a first overview of the extent of food redistribution outside the “official” food banks. It was agreed to include 2–4 cities/regions in each country, where the cases were selected in collaboration with national charity organisations, which also were the “study objects” where the survey started in each country. The cities/regions should thus not be regarded to be representative for the situation in each country, but should rather be seen as good examples on long term experiences with food redistribution. In a proposed next phase of the project, more comprehensive studies of direct redistribution of food could be done, to get a more representative picture about the extent of redistribution in each country as well as in the Nordic region.

7.2 National report from Sweden

7.2.1 Background and study objects

The history on food redistribution in Sweden is quite long and has been emerging from the willingness to help needy people rather than to prevent food waste. Environmental aspects have only been an argument in the work carried out in the last few years. Based on the conducted survey it seems that the Swedish food redistribution through charity organisations is foremost based on local initiatives. If these local initiatives or organisations have national headquarters they are not active in coordinating activities. One exception is the Salvation Army that does have a

national organisation as well as three distribution centers functioning like regional food banks, but they do not serve other organisations than the Salvation Army.

The search for data and information started through contacts with six organisations at the national level in order to gain more knowledge about regional and local initiatives. The Red Cross and Lions Club claimed they did not know of any food redistribution within their organisations. The four other organisations proved to have local initiatives regarding distribution of donated food:

- Frälsningsarmén (The Salvation Army).
- Riksföreningen Sveriges stadsmissioner (The Swedish organisation of City Missions).
- Svenska Kyrkan (The Swedish Church).
- Soppkök (The network of Soup kitchens).

All national organisations were asked about the existence of other national organisations involved in food redistribution. Based on this information and experiences from interviews with local organisations, several small organisations were found to distribute food to needy people – however all could not be interviewed within the project. Based on the interviews made we conclude that the most important organisations engaged in food redistribution in the studied regions are covered in this survey.

The extent of involvement and knowledge about the local activities varied between the four organisations. The national organisation of the Salvation Army proved to be the most involved organisation with basic knowledge about the amount of food redistributed through their organisation in the whole country. The Swedish organisation of City Missions had more limited knowledge about all local activities, but lacks data about the extent and amounts of food being redistribution. The Swedish Church referred to the regional canonries for further questions, which in turn referred directly to the local assemblies. The Church organisation has seen tendencies of increased need in recent years. New groups of people seeking for assistance are young adults, single mothers and retired people, all with low income. The network of soup kitchens is not an actual national organisation, but rather a loose network based on private engagement and initiative, acting under the same name. The network of soup kitchens has existed for about two years, while the other three national organisations have all been active for more than ten years.

The Salvation Army operates three distribution centers functioning like food banks within their own organisation; in Stockholm, Västerås

and Gothenburg, and has between 26–50 different places that serve food to homeless or needy people. They give away food bags regularly from 11–25 localities. The national level of the Salvation Army summarises the portions served annually in Sweden to over 50,000 and the portions given away in food bags to between 10,000–25,000. Not all this donated food prevent waste, as there are also some sponsored food in the figures.

Food bags are also distributed by one local church that, as well as occasionally by some of the organisations of the City mission. The Swedish organisation of City Missions have activity in seven localities; Stockholm, Uppsala, Gothenburg, Västerås, Skåne, Linköping and Kalmar. The national contacts have not access to information about figures of served portions and refer to the local organisations for more details.

7.2.2 Extent of food redistribution locally/regionally – type of redistribution and organisations involved

Four cities were chosen as study objects for this survey; Stockholm, Gothenburg, Malmö and Västerås. The reason for choosing those cities was that food redistribution activities were well developed here based in information from national organisations. Twelve local organisations were contacted. One of those did not receive donations any longer as they ended the contract due to stale food deliveries. Another organisation had changed location and did only receive bread every second week now due to lack of kitchen facilities. Ten organisations were selected for full interviews. The survey does thus not cover all organisations active in food redistribution in the chosen cities, but a large proportion of food being redistribution should be covered.

Table 8: Characteristics of the cities/regions used in case studies in Sweden

City	No. of inhabitants	No. of organisations involved	No. of donors involved
Stockholm	1,400,000	6	70
Gothenburg	550,000	3	25
Malmö	313,000	1	5
Västerås	142,000	2	8

The Salvation Army in Stockholm and the City Missions of Stockholm, Gothenburg and Malmö are the organisations serving most food portions, over 10,000 portions/year each. Five out of ten organisations distribute food bags on a regular basis to social clients. The Salvation Army in Stockholm and Västerås are the most important organisations in distribution of food bags. Some organisations have abandoned food bags in favour of gift cards which is not related to food redistribution, but is a

regular gift card used for shopping in regular stores. This is because cultural differences make it difficult to offer the right food products to the right social clients.

Table 9: Overview of local food distribution in Swedish case cities/regions

Charity organisations identified/contacted	Meals served annually	Food bags handed out annually	% of food coming from donation	Frequency of donations received
Stockholm				
Stockholms stadsmission (Stockholm City mission) Frälsningsarmén (Salvation Army) Svenska kyrkan i Nacka (The Swedish church in Nacka) Stockholms soppkök (Stockholm soup kitchen) Convictus Ny gemenskap	45,000	27,500	11%–75% depending on organisation	Varies between the organisations 1–4 times/week
Gothenburg				
Göteborgs Kyrkliga stadsmission (Gothenburg City mission) Göteborgs soppkök (Gothenburg Soup Kitchen) Faktum	16,000	1,000	11%–25%	Every day for the City mission. 20 times/year foror Soppkök
Malmö				
Skånes Stadsmission (The city mission of Skåne)	15,000	0	26%–50%	3–4 times/week
Västerås				
Frälsningsarmén (Salvation Army) Västerås Stadsmission (Västerås city mission)	4,500	13,500	26%–100%	1–4 times/week

The food packed in food bags are mainly based on donated food, while the served portions with more fresh ingredients have to be planned in advanced and is more based in bought food and not only on redistributed food. The soup kitchens serve only food which is. bought or sponsored by donors and is thus not related to waste prevention, as the private network does not have money nor storage space for redistributed food.

7.2.3 Experiences with organisation of local initiatives

Most respondents at both national and local level, claimed that they were not involved in collaboration with other organisations in order to prevent food waste or to coordinate food redistribution. The NGO's are engaged predominantly in anti-social exclusion work with a lot of work focusing on

empowerment strategies, and food redistribution has thus not been a strategic priority. One respondent mentioned that they have recognised that for some groups (i.e. people in homelessness, migrants etc.) the food served in the drop-in facilities is an important factor to bring users into access with other services. This has been a reason to develop and expand food redistribution as part of the integrated services.

The main limitations to extend activities in the near future identified are:

- Logistics
 - a) Keeping the food chain cool
 - b) Having enough storage space (otherwise donations of fresh food will be reduced)
 - c) Time/schedule for collecting food at night after closure of businesses.
- Personnel costs (personnel is needed to receive and handle the food properly).
- Limited possibilities for cooking in the facilities.
- Keeping up engagement/passion of the personnel/volunteers.

Furthermore, it is difficult to plan for meals when the chef never knows when and what kind of food that will be received from donors. The chef cannot expect food every day and has to plan the meals in advance. Frequently food is taken out of the freezer to prepare meals, whereas later to receive a batch of redistributed food that has to be served immediately because it is going out of date. In some cases organisations then end up with food waste anyway, as they have prepared too much food that day.

Another problem is related to quality and variety of food. It is important to get the right kind of food to the right place, and the food should be able to prepare into good meals. Some organisations said that they received food in big bags and discovered that some food had to be thrown away, which increased their waste management costs.

7.2.4 Access to food donors/potential for increasing food redistribution

Nine out of ten organisations said that redistributed food is very important for them whereas one said it is important. Three organisations receive more than 50% of their food from redistribution, three receive 26–50%, two receive 11–25% and one less than 10%. The last organisation could not estimate the share of redistributed food.

Two of the organisations with 100% of served food based in donation are the Soup Kitchens in Stockholm and Gothenburg. A large portion of this food is however bought or prepared by donors to sponsor the soup kitchen, which means that the food is fresh. Those cases are thus not to be regarded as food waste prevention.

Food bags contain more redistributed food (from 50–100%) than meals that are prepared and served. The reason is that prepared meals have to be complemented with fresh products that often are bought, while food bags can be filled with dry food mostly from the received amount.

The frequency of food donations (including redistributed food) to the organisations vary from every day to less than once a month. Three organisations get food donations once to twice a week, four more frequently and three less frequently. If the soup kitchens that serve food at a maximum of once a month are excluded from the result, the picture changes towards higher frequency of donations. Five of ten organisations say they have no problems to get enough food or stable amounts of food. Two organisations have problems with stable support from time to time, two often and one always needs more food than received by donations.

There is no clear picture of the routines for contracts between receiving organisations and donors. Some operate on an ad-hoc basis without formal contracts, some have local contracts and others have contracts between central organisations. Central contracts seem however to be the least common type of agreement. Agreements are often established upon personal contacts and in some cases are ended as a key person is leaving the receiving organisation or the donating company.

When organisations were asked to rank the sectors they receive food from, most put the retail sector as number one. Food donations from the food industry are rare and no organisation mentioned food donated from primary producers (farmers etc.) Some organisations found it difficult to rank donors as the amount being donated varies a lot over time and with low regularity in donations. The soup kitchens differ from the rest, as private persons were mentioned as their number one donor group.

Most of the receiving organisations cannot or do not want to specify their donors. Donors are changing too frequently and the donations are based on personal relations not known by the interviewee or the interviewee wants to keep the donors anonymous. One organisation receives a substantial amount of food from a school canteen, but as this can be seen as lack of planning and over-cooking, the school will not have those donations known to the public. The project had the primary intention to contact only the donors mentioned by the receivers. 17 donors were mentioned by name and those were contacted twice with a questionnaire by e-

mail and a request to participate in the survey. Six organisations filled out the questionnaire, where three represent the food industry, one a bakery, one a wholesale/service-company and one a restaurant.

Five of the requests were sent to the retail sector, by some of the receivers listed as the main donors, without any response, neither at a national nor a local level. One retail chain did answer that they donate food as a measure to reduce their loss, and it is known that at least two other chains also do this.

The result from the survey among donors shows that one donor has donated the last 1–2 years, two between 3–5 years, one between 6–10 years and two in more than 10 years. Two are donating to one organisation, two to 2–3 organisations, one to 4–5 organisations and one to more than 10 organisations. When the donors referred to receiving organisations, some small charity organisations were new to the project team.

Three donors donate food every day, one once a week, one 2–3 times a week and one only once a month. The frequency depends on type of business and also on the donor's storage space. Two of the agreements were based on contracts and four had a more ad hoc form.

Coffee, fruits and vegetables, pasta and sandwiches and fresh bakery products were the products most oftenly donated by the respondents. Regarding weight of donated food in 2013, one answered that they gave 20 kilo/week, two said between 61–100 kilos per week and two other said 200 kilos per week. One did not know. One donor said they can donate 0–10% more food than today, two between 11–25% more, one between 26–50% more and the two last do not know. The reason for not donating more is primarily that the charity organisations did not ask for more, according to all six respondents. One also answered not to have more time to handle any additional donations.

Four donors have not noticed any barriers to food redistribution. One has experienced barriers as authorities have had opinions about transportation, traceability and labeling of the donated food. One answered yes and no. No was a response to the type of donations asked for in the survey. Barriers were mostly related to other ways to handle food losses, for example giving it to animal feed. One also mentioned the fact that the receiving organisations did not have the necessary capacity to receive food, like freezers, transport capacity etc. to take more.

All have only received positive response from their engagement in food redistribution. They mention gratefulness from the receivers as important and also positive feedback from their own customers. One donor receives short reports from the beneficiaries, where they explain how the donations have been used. "We get a good feeling when we do-

nate food instead of throwing it into the bin". The most common reason for donating food is to prevent food waste (5 of 6), the second most important to increase the social responsibility (3 of 6) and alternatives "to support feeding the poor" and "having a policy of the company" has each gotten two out of six responses. No one donate food to reduce the waste management cost. Five of the donors will continue giving food to charity organisations, one does not know.

7.2.5 Experiences with local/regional/national authorities – support and restrictions

Authorities are in general not engaged in food waste prevention strategies in relation to the activity going on in the charity organisations, according to the information from the interviewees. Eight of ten organisations say that local authorities are not engaged in their food serving activities at all. Two mention that they receive some economic support for rent etc., but the interviewees are not sure if the economic support is directed to the food serving activity or to the organisations as a whole. Most organisations face food safety authorities in the same way as other types of food businesses.

Most challenges related to daily food serving activities is due to practical problems and not to how regulations and controle is practised. Most organisations do not have clear ideas or suggestions about how authorities could make it easier to develop redistribution of food. One national contact suggested that governmental authorities could engage in educational programs regarding practical solutions and opportunities for food storage instead of mainly focusing rules and restrictions. It has also been mentioned the importance to have the same practising of rules and controle in the whole country. Now controles are organised by the municipalities, often with different practise and interpretations.

Yet others mentioned that the rules regarding date labeling and storage is seen as a barrier by the donors, which implies that many companies are throwing away food instead of donating it. The fact that many donors want to be anonymous also reflects the fear of being accused of donating stale food. Many organisations were thus reluctant to specify their donors.

7.2.6 Collaboration with national food banks – experiences and potential for improvement.

The Salvation Army are running three internal food redistribution centres in Västerås, Stockholm and Gothenburg. The other organisations contacted in this survey did not collaborate with any food bank and most of them had never heard of that possibility. Some were aware of the food bank Allwin, operating in Gothenburg, and said they were waiting for similar organisations to be established in Stockholm. FAKTUM in Gothenburg used to collaborate with Allwin, but ended their agreement early in 2014.

7.3 National report from Finland

7.3.1 Background and study objects

Food donations and food redistribution by charity organisations started early 1990 when Finland faced a serious economic crisis, and a large number of citizens lost their jobs and became unemployed. Since that time breadlines has remained in front of the charities doors and again in the last few years, the number of clients seems to have grown. Nowadays more food is coming from companies as donations, food that is close to expiring date or have wrong labelling, and cannot be sold.

Organizations sharing food differ a lot, and includes several religious parishes, organisations of unemployed and non-governmental organisations. The Evangelical Lutheran Church of Finland has most of the sharing points and has premises in every municipality. Many sharing activities started back in 1995 when Finland decided to join the EU food aid program. Organisations established sharing points for food bags distribution (The Fund for European Aid to the Most Deprived (FEAD). EU food was complemented with food donated from retail companies and this has continued ever since even though the EU food aid has decreased its contribution of the amounts of shared food.

In Finland charity organisations can offer coffee, breakfast or lunch in their canteens, but it is also common to give food bags to be eaten at home. Bags will be distributed at organisations sharing point on particular days 1-5 times per week. In addition, there are many special events e.g. Christmas, New Year's Eve and Finland's Independence Day when organisations can arrange food distribution or offer feast meals.

University of Eastern Finland has studied and reported experiences from organisation of food aid in Finland. In their study they found that at

least 226 municipalities (Finland has 320 municipalities in total) have at least once per week some kind of food sharing. Annually the number of persons visiting food aid regularly and irregularly is around 22 000. The number of regular visits to food aid is around 1.2 million and the number of all food sharing contacts is around 1.7 million in 2013 (Ohisalo et al 2014). Number of local organisations sharing food is about 400 (Ohisalo et al 2014), but many of them are under the same national organisation like Evangelical Lutheran Church of Finland, Mannerheim League for Child Welfare, the Organisation for the Unemployed or the Salvation Army. Food aid can be part of the organisations activity like social work done by a church, or being the main action and purpose of the organisation. Food aid actors in Finland distribute food donated by retail sector, food industry and bakeries and they can also buy some of the food to be shared. The EU food aid program has been one of the factors why Finnish food aid was established and is still operating in the 21st century as an active part of the civil society, though it was planned to be a transitional measure to meet the 90's recession (Ohisalo 2013). The amount of the EU food has decreased and food donations are growing their share of the distribution today.

In this study four national organisations were interviewed and took part in the survey. They also specified names of their most important local contacts for following-up with interviews. Two regions that seemed to have a lot of food sharing actions and many actors were selected as study objects; the Helsinki metropolitan area and Turku area, both being located in Southern Finland with relatively dense population.

National organisations cover the whole country, but their representation differ a lot. The Evangelical Lutheran Church is acting in every municipality and also some other organisations have a number of local associations. Food sharing activities varies, where some organisations have activities in many localities and some only a few sharing points. The Evangelical Lutheran Church and The Finnish National Organisation of the Unemployed serve cooked lunch or other meals to social clients or low income people. In some cases sharing only cover serving coffee and sandwich. National organisations also share food donated from EU combined with some food being bought. In this study focus has been on the donated food, but some times organisations do not know if food is donated or bought. Most of the donated food come from the retail sector and the food industry, covering between 50–100% of food shared by organisations (in one case only 10% and another case 0%).

The two regions included in the survey are characterized by the following figures (**Fejl! Henvisningskilde ikke fundet.**):

- Metropolitan area around Helsinki:
Area included tree cities: Helsinki, Espoo and Vantaa. They have about 1.1 million inhabitants. Eight organisations were interviewed and all main actors in the region were included.
- Turku area:
Turku area includes city of Turku and suburb municipalities around the city. Number of citizen is about 300,000. Seven organisations were interviewed, many of them have co-operation and share food from common sharing points.

Table 10: Characteristics of the cities/regions used in case studies in Finland

City/region	No. of inhabitants	No. of organisations involved	No. of donors involved
Helsinki metropolitan area	1,100,000	8	4 from food industry
Turku area	300,000	7	5 from retail (two companies)

7.3.2 *Experiences with organisation of local initiatives*

All organisations taking part in this study are sharing food bags to bring and eat at home. In addition some of them will offer cooked food portions, especially in Turku area. Almost all organisations share food every week, typically two or three times per week, and have been active more than 10 years. All but one answered that food received from donors is very important for their work and service, and all but one reported that more than 50 % of food shared originated from donors.

The number of cooked food portions varied from 500 to more than 10 000 portions per year, while the number of shared food bags was in most occasions more than 10,000, and up to 270,000 bags per year by one organisation. The weight of one food bag varied, but is typically about 3–4 kilos (can be up to 10 kg) and with an economic value between 20–30 € depending on the type of food available.

We have made a rough estimate of number and weight of food bags in both study areas based on information from the organisations, interviews and conversations. Some information has also been received from published articles and internet sites. We had a visit to one sharing point to evaluate methods of distribution, types and amounts of food shared.

Rough estimates of the weight of received food in organisations that took part of the study showed about 2.5 million kg/year, which can be seen in relation to food waste from the retail sector in the same areas

which is estimated to about 20 million kg/year. A large part of the donated food comes from food industry where the amount of food waste is not known, making comparisons difficult. The volumes of cooked food donated by canteens are more difficult to estimate because portions can vary from sandwich to full lunch meals, and organisations had not overview of the number of portions served. Volumes of the delivered food bags are also based on estimates from the project team.

Table 11: Overview of local food distribution in Finnish case cities/regions

Charity organisations identified/ contacted	Meals served annually	Food bags handed out annually	Percentage of food coming from dona- tion	Frequency of donations received
Helsinki region				
Evangelical Lutheran Church	>20,000	570,000 bags	5 > 50%	5 everyday,
Pentecostal Church		2,000,000	1= 100%	1 3–4/week,
The Evangelical Free Church of Finland		kg/year	1 > 90%	1 1–2/week,
The Salvation Army			1 > 10%	1 1–2/month
Veikko ja Lahja Hurstin Laupeudentyö ry				
The Evangelical Free Church of Finland				
Vantaa Homeless Support				
Hyvä Arki ry Espoo				
Turku region				
The Salvation Army	>25,000	150,000 bags	5 >50%	4 everyday,
Finnish Red Cross		500,000 kg/year	1= 0%,	2 3–4/week
The Finnish National Organisation of the Unemployed – TVY			1= 100%	
Church Consortium				
Operaatio Ruokakassi ry				
The Evangelical Free Church of Finland				
Turun A-Kilta				
Turku Street Missionary				

In Helsinki area all organisations have a contract with donors and Turku area three organisations had either national or local contract. Almost all received food from donators every day or 3–4 times per week, and they had at least sometimes problems with getting enough food.

Almost all the important organisations received most of their food from the retail sector and food industry, followed by the wholesale sector and canteens. Almost all charity organisations have received at least some support from authorities, mainly economic support and premises but also through workforce. Some has received support from the donating companies for logistic or even some economical support.

Finland has not yet organized food banks that collect food from donors, store the food and share it between organisations. Finnish organisations do however co-operate and they are recognizing some organisations to function as food banks. Those organisations will share surplus food with other organisations or they collect food already for other organisations.

Many would like to increase this type of co-operations, although some also argue that food bank's type of business will not help them. In Turku area co-operation is very effective and is close to food bank kind of activity in their functions. Even though organisations differ quite a lot, they have the same kind of challenges, restrictions and concern about increasing economic inequality and more needy people. Many stated their worries about sufficiency of the social benefits and how sharing points have been a necessary part of the Finnish social security. When it comes to material points of view every actor sharing food have need for workforce, proper logistics and facilities for storage and serving.

The respondents in this study were worried about the increasing of number of people having need for free food. The lines outside of the share points has grown longer but at the same time the number of voluntary workers has remain the same. Few respondents were worried about voluntaries getting older and their organisations' inability to respond for increasing demand.

Many have answered that lack of proper premises with cold stores were among the main challenges. Also freezer stores for frozen food would help to store food properly until it can be shared. Trucks with refrigerators are necessary to keep the cold chain unbroken and will be important to have access to enough capacity in the future. Today the sharing operation will start in the morning when donated food will be collected from the donors. All food are intended to be shared in the same day because storing is difficult and the date of food will be close to expiring. Freezer would give more time to get all shared and would maybe decrease the need for everyday logistic.

One concern for the future is the amounts and availability of donated food. It is a fear that if the economic situation will grow worser, also the amounts of donated food will decrease. Other concerns are a potential growing production of bio ethanol that is made of food based materials. Some of the surplus of bread is already going to ethanol production. On the other hand many stated that the new guidelines for food aid given by the Finnish Food Safety Authority Evira in 2013 (Evira 2013) has opened up new possibilities to get more food from the retail sector and the food industry, but also from the food service sector.

Food redistribution after municipal school lunch

It has been estimated that Finnish food service sector generate about 80,000 tonnes of avoidable food waste per year, whereas school canteens contribute with about 20,000 tonnes per year (Silvennoinen et al. 2012). Municipal food services are a significant part of the Finnish food service sector and food culture, as they provide up to half of the meals

consumed outside the home. One third of the population use those municipal food services daily.

Jyväskylä city council started a trial at the Vaajakumpu school to prevent surplus of food to end as waste. The trial was part of the Finnish Innovation Fund Sitra's Towards Resource Wisdom initiative, which included several trials and pilot projects aimed at reducing emissions and consumption of natural resources, while increasing regional well-being (Sitra 18.4.2014). The left-overs from lunch meals have been offered to people who would not otherwise eat two warm meals per day, e.g. siblings, parents and grandparents of the pupils, elderly people and unemployed. Those people can also benefit by having opportunities for more social contacts in the local communities.

After school lunch time canteen is opening the doors for neighborhood people to have possibility for lunch for very low price, food is sold at a bargain price 1,5 EUR. The price was based on the cost of milk, bread and butter, the traditional side dishes to a Finnish school meal, with the main dish effectively free of charge. Other municipalities, including Espoo, Oulu and Rovaniemi, are keen to try similar schemes. Today over 20 towns are selling or giving food after lunch. Also one organisation taking part of this study started to collect overproduced food and share it their canteen. There is possibility to save even 2 million portion of food in a year in Finland (Keski-suomalainen 27.3.2014). Sitra has also made a guide slide show for school canteens and school managements how to organize serve and inform about food left from the lunch (Sitra 19.4.2014).

Food Redistribution Events in Vantaa

Vantaa Homeless Support Vahti ry organized special events 3.3.2014 and 14.4.2014 in front of the City Hall to invoke policymakers to support food aid and redistribution. This organisation needs location for sharing of food and a freezer car for transport of frozen food to continue food redistribution from the stores and food industry. Youtube video presenting the event 3.3.2014 can be found here: <http://youtu.be/HY74lPfxrpg>

7.3.3 Access to food donors/potential for increasing food redistribution

Donations are extremely important for organisations who serve and share foodstuffs. Many receive all their foodstuffs from donors and almost all organisations receive more than 50%. The organisations being involved in this study specified 38 different donors, from which interviews and answers were received from 9 donors: 4 from the food indus-

try, 4 from the retail sector and one from the retailers' association. The most important donors are retail sector's markets and hypermarkets, and different kind of food industry. Some bakeries, wholesales, farmers and canteens have also donated food to organisations. The retail sector was represented by two main grocery chains in Finland which cover about 80% of all sale. One chain has 30 markets and hypermarket donating food in the Helsinki area while the other chain operates differently with about half of their groceries donating food. Retail sector reported to have agreements with organisations about quaranteeing unbroken cold chain and self-monitoring.

Donors have typically two or three main receiving organisations by whom they can have contract, but there can be also be situations when companies donate products to other organisations and without any special contract or agreement, e.g. when a large batch of food stuff cannot go to ordinary sale. The retail sector donated mostly bread, fruits, vegetables, and milk products, but also meat and cheese. Donations occurred every day when groceries were open. Food industry donated their products more seldom, mostly 2-3 times per week.

When asked if companies could donate more food, most answered between 0–10% possible increase in the future. Two reported that they could donate between 26–50% more than today. The main reasons for not donating all possible food was organisations lack of willingness to receive more, and also restrictions in laws and regulations that prevented increased donations. All food is not suitable for donation e.g. having possible safety risks or organisations cannot make use of all products e.g. bread.

One retail sector representative said that giving 30% discount to customers for product approaching "use by date" or best before date had reduced food waste a lot during last few years. Consumers are used to discount labels and some groceries will sell as much as possible of those products to reduced prize. Even still there will be surplus food left for donation and those retail shops will even increase the number of outlets donating in the future.

One retail sector representative see that if organisations prepared more cooked meals they could increase donations because heating and cooking will make donated food more easy to share when close to the best before or use-by dates. One respondent answered that the main challenge in the retail sector is a correct assortment of food and management of surplus food. The target is to minimize food being wasted and one option is to increase amounts being donated.

The main drivers for companies donating food is to decrease food waste, but they also see that food donation is part of their policy to in-

crease social responsibility. All have faced only positive reactions from food donations, with responses mainly from organisations but also from customers who prefer surplus food donated rather than thrown away. Media has also given positive publicity about donations. All donors taking part in this study will continue to donate food also in the future.

7.3.4 *Experiences with local/regional/national authorities – support and restrictions*

Charity organisations have reported that authorities can have a positive effect and contribute to solving of problems. On the other hand they also register increasing poverty and low salaries driving increase in need for donated food, whereas there still is a lack of proper cold stores and vehicles. All but one organisation mentioned that Evira's new food aid guidance had made the conditions for redistribution easier and instructions more reasonable. One told that the same guidance had made their access to food more difficult, mainly due to more strict time and temperature restrictions. Some also said that authorities do not always know organisations' everyday life and situation. Some proposed that government should give tax reliefs to companies giving food for donations.

Almost all organisations had got even some kind of support from the authorities: 11 have got economic support, 7 have got support for premises, 2 have got support for manpower. Some have also support from the companies for logistic or even economical support. Many times local municipalities have given some financial aid for operation and activities, however the extent of this support has not been found out in this study. According to the answers the environmental authorities have not been engaged with any organisations.

The donors also told that Evira's new guidance had made donations more easy for them and gave new possibilities for activities and initiatives. Responsibilities are made clearer and the amounts of donated food has increased.

7.3.5 *Collaboration with national food banks – experiences and potential for improvement?*

Both study areas have co-operation between organisations and they have established networks to collaborate in actions and in sharing of food. Organisations are however independent and have their own settled operations. Many have been active in sharing food for a long time and have their own supply chains and contacts with donors. That can be the reason why

not all organisations see that food banks will improve their situation. Mostly organisations were cautiously positive. Some saw food banks would not make their work any easier and some did not like the idea at all. In Turku area *Operaatio Ruokakassi* is working like a food bank as they help other organisations with logistic, food supply etc. In Helsinki metropolitan area has also two initiatives for networking and improving food share, these are *Nälkäverkosto* planning collaboration between organisations and also co-operation with Estonian food sharing organisations. The new initiative *Yhteinen pöytä* is to increase the collaboration between organisations in Vantaa city area. Their purpose is to activate and help customers also in other ways than just food aid, e.g. social enterprise or employment (Vantaa City 22.4.2014, Vantaan Sanomat 9.10.2014). Some organisations would like to co-operate more and stated e.g. their will to have freezer car together, develop operation and working methods.

Other areas in Finland have also started new initiatives with more collaboration and food bank similar activities. In the Northern part of Finland the new sharing points has opened in Tornio, Rovaniemi and Kemi (conversation 28.3. Sirkka Kellokumpu). The new Evira food aid guidance has given the opportunity for sharing more food donated from retail sector, has increased sharing points and also retail sector willingness to donate more food. Local municipalities have helped with premises and new voluntaries have started activities. After sharing food bags organisations can cook and serve food if still left. Also school canteens have started to donate overproduced food left from the lunch.

Today when food banks do not exist, food must be redistributed very fast after it has been received from the donors. Lack of freezer cars and stores does not allow storing fresh food and share food stuff in sections later days. A well organised food bank would probably improve situation among some actors. Some will see also disadvantages like delays in sharing. One donor inquires for food bank like organized operation that would help even donate more than today, when there are a large number of small organisations.

Sudden situations can happen e.g. broken freezers or power cuts, when a large amount of food should be donated rapidly. Food banks could help in those situations with more capacity in storages, logistic and freezers.

7.4 National report from Denmark

7.4.1 *Background and study objects*

Whereas charity organisations have been involved with food redistribution for several decades in Denmark, the focus on food waste minimization and environmental concerns has only become prevalent in recent years. With the establishment of the Copenhagen-based food bank, *fødevareBanken*, in 2009, these aspects of food redistribution have become increasingly important on the political agenda as well as among the public.

In Denmark, redistribution of food takes place through a variety of organisations, all characterized by being non-profit and non-governmental. Organisations working with food redistribution include charity organisations working with socially disadvantaged people, campaign/lobbying organisations and the Food Bank (*fødevareBanken*), an NGO working centrally with food redistribution at a practical level.

The underlying goal of the food redistribution related work, the scale at which the work is performed and the methods used differs between the various organisations. The charity organisations focus solely on helping socially disadvantaged people, such as homeless people, asylum seekers or at-risk women. Very little attention is paid to the possibility of reducing food waste, since this is not a core activity of such organisations. Campaign/lobbying organisations and the Food Bank tend to have both a social and an environmental purpose, although the emphasis is most often put on the environmental benefits of food waste prevention.

The structure of the different organisations also varies. The charity organisations, who are the ones actually serving people on a day-to-day basis, generally receive food donations directly from local supermarkets and to a lesser extent from food producers. The donations from food producers mainly happen through the Food Bank. Campaign/lobbying organisations also serve people but only at rare events, and their core activity is not actual food redistribution. Whereas they do arrange events where they facilitate food redistribution, such activities are campaign related and an attempt to bring political focus to the issue rather than an action to meet the immediate needs of socially disadvantaged people. The role of the Food Bank is to receive donations from food producers and redistribute this food to charity organisations. The Food Bank does not engage with end-consumers directly nor receive donations from local supermarkets and their engagement with supermarket chains is limited.

Whereas the majority of charity organisations in Denmark are national organisations, the work related to food redistribution mainly oc-

curs locally. Campaign/lobbying organisations and the Food Bank work nationally and centralized but can have several branches that operate at a more localised level.

This study has focused on four cities in Denmark. The four cities vary in size and geographical location: Nakskov is a small city (13,000 inhabitants) in south-western Zealand, Vejle (52,000) and Esbjerg (72,000) are both medium sized cities located in eastern and western Jutland respectively. Aalborg is a bigger city (107,000) located in northern Jutland. The biggest Danish cities of Copenhagen and Århus have been bypassed because it is already known that many food redistribution related activities take place here (e.g. the Food Bank is located in Copenhagen). For the purpose of mapping the potential for further food redistribution as well as further investigation, it was decided to focus on locating activities and assessing experiences outside these two bigger cities.

Table 12: Characteristics of the cities/regions used in case studies in Denmark

City	No. of inhabitants	No. of organisations involved	No. of donors involved
Nakskov	13,000	2	6 from food industry
Vejle	52,000	6	5 from retail
Esbjerg	72,000	4	
Aalborg	107,000	6	

For the mapping of food redistribution activities and actors in Denmark, seven national charity organisations were identified and contacted: Dansk Røde Kors (Danish Red Cross), Dansk Folkehjælp, Folkekirkens Nødhjælp, KFUM/KFUK, Frelsens Hær (Salvation Army), Kirkens Korshær and Blå Kors. Of these, only the Salvation Army receives donations centrally, which they redistribute to their local centres. They mostly receive donations through the Food Bank. Blå Kors and Kirkens Korshær receive donations only at the local centres. Danish Red Cross, Dansk Folkehjælp, Folkekirkens Nødhjælp and KFUM/KFUK do not receive donations. Several organisations require payment for the meals they serve and KFUM/KFUK has stated that this makes them unable to receive donations, since certain requirements concerning quality apply when food is sold as oppose to given as charity.

The municipalities in each city were also contacted, since they run shelters and social centres, but they do not receive any food donations. This seems to be due to a lack of tradition in the public sector of engaging in this type of activity. Also, donors seem to prefer donating to private organisations because publically run centres are assumed to have the economic resources to purchase the food they need themselves.

7.4.2 *Extent of food redistribution locally/regionally – type of redistribution and organisations involved*

Table 13 shows the number of charity organisations contacted in the different cities as well as which of these organisations receive donations. The table also shows the amount of food served and handed out measured in meals (approx. 200–400 g.) and food bags. Food bags vary in size and content, making it difficult to determine an estimated weight per bag. Some food bags, e.g. for Christmas, include several kg. of food, whereas food bags handed out on an ad-hoc basis may contain as little as 500 g. In the identified charity organisations, the food is generally served as a warm meal rather than given as a food bag. The last two columns in the table show what percentage of this food comes from donations and the frequency of donations received by the organisations.

Table 13: Overview of local food distribution in Danish case cities/regions

Charity organisations identified/ contacted	Meals served annually	Food bags handed out annually	Percentage of food coming from donation	Frequency of donations received
Nakskov				
Salvation Army	16,700	N/A	<10%	1–2 times per month
Vejle				
Kirkens Korshær	>10,000	D/K	<10%	3–4 times per week
Vejle herberg venner	2,501–5,000	<500	Too little	from supermarkets and <1 time a month from other sources
KFUM				
Salvation Army				<1 time per month
Værestedet Himmelblå (municipality)				
Esbjerg				
Kirkens Korshær	>10,000	>10,000	60–70%	Every day
Forsorgshjemmet (municipality)				
Aalborg				
Salvation Army	21,900	<500	<10%	2 times a week from bakeries, few times a year from other sources
Kirkens Korshær	(only breakfast)			
KFUM				
Cafe Væxt (municipality)				

7.4.3 *Experiences with organisation of local initiatives*

Table 13 shows that Kirkens Korshær and the Salvation Army are the only ones to receive food donations in these areas, although nearly all organisations are engaged in serving food to social clients. The table also highlights the differences that exist between the local centres in the different cities. The majority of the organisations receive less than 10% of the food they serve as donations, stating that food donations “*are not very important*” and that they “*always receive too little*” to accommodate

their needs. Common for these organisations is that they receive donations from food producers or the Food Bank 1–2 times per month or less than 1 time a month. Some receive additional donations from local supermarkets and bakeries several times a week.

One local organisation, Kirkens Korshær in Esbjerg, stands out in that 60–70% of the food served by this organisation comes from donations, including sponsorships. The organisation receives donations on a daily basis and states that it is “*never a problem getting enough food*”. The manager of Kirkens Korshær in Esbjerg explains that their success in this regard is caused by more than 10 years of activities aimed at building and maintaining a network of contacts as well as setting up a system for receiving food donations. Kirkens Korshær in Esbjerg has made it a priority to develop this part of their work, which separates them from all other local charity organisations in this survey. The focus on developing and maintaining a network has also made it easier for Kirkens Korshær in Esbjerg to receive other things than food, such as storage facilities and furniture.

Besides Kirkens Korshær in Esbjerg, however, it is clear that food waste prevention and the logistics surrounding such work is not a core activity in the charity organisations, and the majority do not have the monetary or human resources to organize the necessary network and infrastructure to make such a system run smoothly.

The organisations generally do not keep track of the number and size of donations they receive and only to some extent the meals they serve. Also, the sizes of meals can vary significantly from organisation to organisation. This makes the figures in Table 13 represent a rough estimate rather than a precise number. Furthermore, during the interviews with the charity organisation it became clear that they do not differentiate between donations related to food waste and donations in the form of sponsorships (i.e. food given by food producers as charity or for certain events, like Christmas). Due to the lack of differentiation between these types of food, the figures in the table above can include both food prevented from being wastes as well as food that could have been sold in the market. Food given by food producers as part of a sponsorship is often food that would have been sold otherwise and in some cases the food has been produced specifically to serve as a sponsorship.

The main barrier mentioned by the local charity organisations concerns the logistics surrounding food donations, such as storage and cooling facilities and transportation. All local organisations state that a food bank operating in their area would help improve their ability to receive food donations, except for Kirkens Korshær in Esbjerg. Other problems

identified by the local organisations include lack of resources for handling and organizing the donations; problems with creating meal plans when not knowing what food will be available; and receiving large amounts of the same type of food. Based on the interviews conducted with the charity organisations, legislative barriers are usually not an issue. Only a single organisation mentions a legislative problem concerning their inability to receive certain kinds of food (e.g. airplane meals) because they lack the necessary approval to serve such food.

Based on the barriers identified by the local organisations, a likely way to improve and enhance food redistribution from food producers to local charity organisations is by enhancing the availability of monetary and human resources for the purpose of establishing and maintaining a local system for receiving food donations (such as storage and colling facilities and solutions for transportation) as well as building a network. Also, the organisations themselves need to become aware of the local possibilities for food donations. According to Kirkens Korshær in Esbjerg, the problem is not lack of food and companies willing to donate, rather it is the lack of a system to facilitate the redistribution. Although some organisations identify limited donations as an issue in their local area, this too might be a result of poor logistics and lack of network.

7.4.4 Access to food donors/potential for increasing food redistribution

In Denmark, three types of food donors have been identified: supermarkets (local stores and headquarters), food producers and event-based donors.

Local supermarkets

Of the two local supermarkets contacted (both in Vejle), none reported donating food to charity organisations.

Supermarket headquarters

The three supermarket headquarters, COOP, Dansk Supermarked and Rema1000, all donate to some degree through the Food Bank.

Food producers

Six food producers were contacted: Arla, Kellogg's, Dan Cake, Tulip/Mow, SuperGros and Merrild. Although all six producers donate food, only three producers are engaged in food waste reduction (the remaining donors donate food that could have otherwise been sold in the stores): Arla, Kellogg's and SuperGros.

Supermarkets – local stores and headquarters

Several local supermarkets were pointed out by the local charity organisations as food donors. However, when contacted about food donation to charity organisations, none of the supermarkets could confirm such activities. Some supermarkets told that they donate surplus greens and fruits for animal feed, but on the issue of food donations for organisations and social clients they referred to the headquarters.

Consequently, three supermarket headquarters were contacted: COOP, Dansk Supermarked and Rema1000. These organisations operate the vast majority of supermarket chains in Denmark. Interviews with the headquarters showed that they all have policies related to food waste prevention and to some extent collaborate or wish to collaborate with the Food Bank. The food donations from supermarkets are on a very small scale and no data is available for the food that is occasionally donated due to the lack of systematic record keeping. According to the supermarket headquarters interviewed, the main reason for this lack of food donation is the existence of legislative barriers. The supermarket headquarters find it problematic that they have the full responsibility for food safety until the food is received by the end-consumer, no matter how the food is distributed. This is especially problematic, since they are largely unable to control for food safety after the donation has taken place. The supermarket headquarters also point to logistical barriers in handling the donations. The supermarket headquarters see possibilities in collaborating with the Food Bank on overcoming such issues, although one of the headquarters expressed concern that the Food Bank is too small to accept any significant amount of food. Because of the food safety and logistics barriers, the supermarket headquarters find it impossible to donate directly to local organisations but see possibilities in cooperating with a central organisation, such as the Food Bank.

Judging by the conflicting information from charity organisations and local supermarkets on food donation, there seems to be a mismatch between headquarter-policy and practices in the local stores, which might be why local supermarkets are not confirming donating food. The interviews with the charity organisations also indicate that these donations are irregular and only work in situations when the local organisation has some kind of personal connection to the supermarket, such as a volunteer from the organisation working in the supermarket.

The limited degree of donations from food retailers is problematic when compared to the amounts of food discarded within this sector and consequently the potential for food redistribution. A report conducted in 2010, estimated discarded food from the Danish retail sector to amount

to a minimum of 46,000 tonnes. 95% of this amount, 43,700 tonnes, was estimated to fall into the category of food waste (Kjær & Werge 2010).

Food producers

The charity organisations also pointed out six food producers from whom food donations have been received: Arla, Kellogg's, Dan Cake, Tulip/Mow, SuperGros and Merrild. From three of these food producers, the food donated resulted in food waste prevention, whereas the remaining three producers gave food as sponsorships. The three donors were Arla (dairy products), Kellogg's (breakfast products) and SuperGros (wholesale). All three food producers donate through the Food Bank.

The three food producers all have environmental policies that aim at reducing CO₂ emissions as well as production related waste. Kellogg's and Arla have food waste minimization as a concrete goal in their environmental and corporate responsibility strategies. Besides food, Arla also donates services, such as a warehouse outside of Copenhagen where surplus food is stored until the Food Bank is able to collect it. For the food producer SuperGros, the collaboration with the Food Bank is not part of a concrete policy but a pilot project that began in 2013. If this test period is successful, it is likely that SuperGros will establish a regular agreement with the Food Bank on donations. The three food producers all collaborate with the Food Bank on an ad-hoc basis, and the quantities and types of food depend on the given donation. In 2013, Kellogg's donated 136,000 kg. food products to the Food Bank. Arla and SuperGros were not able to provide precise numbers on amounts of food donated.

When the food producers donate food it is often in large quantities from a centralised warehouse or factory. Sometimes the food has been returned by the retailer due to damaged packaging or wrong labeling. Other times the food goes straight from the producer to the Food Bank without having gone through the retailer, e.g. in cases of overproduction and miscalculation of seasonal food items or because the food items are getting too close to the expiration date to be sold in the stores.

Because of the quantity of the food donations, none of the three food producers collaborate directly with charity organisations, since the need and storage capacity of the individual organisations is relatively small. Also, in the day-to-day preparation of meals, the organisations need a varied assortment of foods rather than large quantities of one food item, making the donations from food producers less attractive. By collaborating with the Food Bank this problem is addressed, although the food producers often have more food to donate than what even the Food Bank is able to accept due to storage limitations. The food that is not donated is given to employees or burned.

None of the food producers mention legislative barriers in relation to food donation. One producer, however, identifies a lack of political initiative guiding the development of food waste prevention in Denmark. The Food Bank currently operates as a non profit, but if this was to change or if similar more commercially oriented food banks were to emerge, the food producer foresees possible conflicts, e.g. relating to the legal responsibility of the food producer or a decrease in the transparency of the food redistribution system (i.e. who benefits from the redistribution?).

7.4.5 Event-based donors

Two significant event-based donors have been identified: the Copenhagen-based NGO, Stop Spild af Mad (Stop Wasting Food movement Denmark), and Roskilde Festival. Common for these organisations is that they act both as donors and as receivers of food and that they only donate food once or twice a year at certain events.

Since 2008, Stop Spild Af Mad (Stop Wasting Food movement Denmark) has been arranging food redistributing events to put focus on the problem of food waste and to deliver surplus food to charities. For these events, Stop Spild Af Mad receives food donations from various donors, which they redistribute to charity organisations or directly to social clients. At this point, around 16,000 homeless people have benefitted from these events (Stop Spild af Mad 14.05.2014). Whereas Stop Spild Af Mad do not have data on donated amounts, they have begun gathering data on the capacity of charity organisations in and around Copenhagen to receive food donations. Out of 35 local charity organisations and shelters contacted by Stop Spild af Mad, 31 were interested in receiving food donations. Four already received donations on a regular basis from the Food Bank. The research showed that storage and cooling facilities are a limiting factor for most organisations. The storage capacity ranged from 0.5 to 5 pallets, averaging at 2.5 pallets. Less than half the organisations were in possession of cooling facilities. This data indicates a potential for increased food redistribution from various donors to charity organisations.

In collaboration with a variety of organisations working on sustainable consumption and production of food, Stop Spild af Mad launched a voluntary food label in 2014. The label, REFOOD, which can be obtained by companies involved in food production and distribution, such as restaurants, hotels and institutions, indicates a special effort towards reducing food waste through various means (e.g. reuse and redistribution). The goal of the label is to entice businesses to focus on food waste as a way to gain a competitive advantage (REFOOD 25.06.2014).

Roskilde Festival has been working in the field of food waste prevention for several years and in recent years they have started to systematize these efforts. Before this systematization process, Kirkens Korshær drove around the festival collecting surplus food from food stalls at the end of the festival period, which they redistributed to their local branches. Roskilde Festival has continued the collaboration with Kirkens Korshær but has also begun collaborating with the Food Bank and plans to collaborate with Stop Spild af Mad from 2014 onwards. In 2013, Roskilde Festival collected 15 tons of surplus food after the festival, which was either donated directly to charity organisations or cooked and made into frozen meals, which were then distributed. Roskilde Festival knows that even greater amounts were not collected due to logistical problems, which they are continuously working to improve. Also, getting in contact with potential receivers is an issue and Roskilde Festival has earlier experienced legal barriers that limited the redistribution of surplus food from the festival. These barriers were overcome in 2013 in collaboration with the Danish authorities.

7.4.6 *Experiences with local/regional/national authorities – support and restrictions*

None of the charity organisations or food donors collaborate directly with the authorities on food waste prevention. Roskilde Festival has been in contact with the authorities several times to find a solution to the legal barriers impeding food donating from the festival. Stop Spild af Mad is also in contact with the authorities in relation to their campaign.

As mentioned above, one food producer points to the lack of political initiative to guide the development of food waste prevention in Denmark and calls for a clear political strategy on the subject to avoid both legal and business related complications and uncertainties, e.g. concerning food safety and competition.

It is likely that a strengthened degree of collaboration between organisations/donors and the authorities could help increase food redistribution efforts in Denmark.

7.4.7 *Collaboration with national food banks – experiences and potential for improvement?*

The majority of the charity organisations collaborate with the Food Bank and the ones who do not would like to do so in the future. The collaboration is greatly appreciated by the charity organisation due to logistics

and resource issues. Again, Kirkens Korshær in Esbjerg do not have the same incentives to collaborate since they have systems in place that work at the local level.

Currently, the Food Bank is mainly able to serve charity organisations in and around Copenhagen. However, because of the obvious demand in the rest of Denmark and facilitated by a grant from the Velux Fond, the Food Bank is opening a branch in Jutland by the end of 2014. This part of the Food Bank will only deal with redistributing food and will be administered from the headquarter in Copenhagen.

All food producers, and to some extent the supermarket headquarters, collaborate with the Food Bank. For these large-scale donors it works well with a central organisation that deals with logistics and has the necessary storage capacity. For the local organisations and the local supermarkets, however, a large centralized system is somewhat problematic, since their donation and receiving capacity is limited.

Stop Spild Af Mad is currently initiating an international project called Surplus Food (Overskudsmad) to supplement the Food Bank and to facilitate food donation and receiving on a smaller and more direct scale. The goal is to establish a system that connects local supermarkets with local charity organisations through a text message and IT system. This is meant to be more locally based than the work of the Food Bank and meet the challenges connected to centralized distribution. Thereby, these two systems are likely able to support each other rather than compete for the same donations. The system is currently being developed, why no numbers on the actual food waste prevention are available. The exploration mentioned above concerning the receiving capacity of charity organisations, however, indicates a great potential for increased food waste prevention through such local-scale initiatives. Furthermore, whereas the Food Bank requires a transportation fee of DKK 10,000 per year from member organisations, the Surplus Food system will deliver food to local charity organisations free of charge.

7.5 National report from Norway

7.5.1 Background and study objects

Local redistribution of food has a long history also in Norway, and is organised through local charity organisations. Those organisations are more or less the same that are involved in the national food bank “Matsentralen”, with good opportunities to collaborate with both national food producers

and retail companies. The importance of direct redistribution by local charity organisations in Norway has been documented by Gaulen *et al.* (2005), in a survey of the four larger cities/regions in Norway. In 2004 about 135,000 citizens received some type of extraordinary economic support from the social security system in Norway, whereas about 200,000 persons were classified as “poor” according to the EU standard (lower than 50% of the median income in the country). About 4,000 persons were registered as receivers of support by charity organisations in the four cities in October 2004, whereas 8,000 persons got support in December, reflecting a higher need in the Christmas period. Food serving was the most important type of support, whereas cloths and shoes were the second most important type of support (Gaulen *et al.* 2005). In a survey among charity organisations in Oslo in 2011 as a basis for planning of the Norwegian Food Bank, it was registered 10 institutions that distributed food bags with about 1,100 daily receivers whereas 22 institutions served about 1,700 persons meals each day (Høiner *et al.* 2011).

The Norwegian project started with establishing contact with the national organisations and sending them questionnaires to be filled out either directly or by telephone interviews. The following organisations have answered the national questionnaires:

- Kirkens Bymisjon.
- Blå Kors.
- Frelsesarmeen.
- Evangeliesenteret.

Based on interview with the national representatives, a number of cities/regions were selected to make a more detailed survey of direct redistribution of food. Those studies were carried out in the areas listed in Table 14:

Table 14: Characteristics of case regions in Norway

City	Number of inhabitants	No of organisations involved	No of donors involved
Fredrikstad	77,000	4	11 from food industry
Kristiansand	86,000	4	26 from retail
Trondheim	182,000	4	2 from wholesale

Table 15: Figures for food redistribution in Norwegian regions

Charity organisations identified/ contacted	Meals served annually	Food bags handed out annually	Percentage of food coming from donation	Frequency of donations received
Fredrikstad				
Blå kors Kirkens Bymisjon Frelsesarmeen Åpent Hus	>20,000	3,000–6,000	>50%	3–4 times per week
Kristiansand				
Frelsesarmeen IOGT (#) Kirkens Bymisjon Blå Kors Filadelfia	12,500–25,000	11,000–22,500	25–90%	Every day to 1–2 times per week
Trondheim				
Frelsesarmeen, Prinsens gt Frelsesarmeen, Hveita Frelsesarmeen, Furulund Omsorgscafeen "Hjelp oss å hjelpe" Friluftskafeen	30,000–40,000	23,000–26,000	11–50%	Every day to 1–2 times per week

The organisation have 12 centers from Rogaland to Vestfold counties, answers apply to most centers, not necessarily specific to Kristiansand.

7.5.2 Extent of food redistribution locally/regionally – type of redistribution and organisations involved

In Fredrikstad, there are three organisations that base their serving of food to low income people on redistributed food. In addition, one organisation give away a number of food bags before Christmas and other feasts, which are mostly based on redistributed food and partly based on food that has been sponsored without any connection with food waste prevention. The number of portions served and food bags given away in Fredrikstad are shown in

Table 15, and shows up a quite extensive amount of food being redistributed annually. Most food seems to be donated from the retail sector, but also from local food producers. Most of the donors from the retail sector represent one big retail company, which has a national contract with the big charity organisations. From the other chains, food donations were only made locally from one company. The local food producers were also all departments in larger food companies, and their contributions were regular, but not based in formal contracts.

In Trondheim, Norway's 3rd largest city, there are 6 organisations (3 are branches of the Salvation Army) serving food and/or giving unpre-

pared food partly based on redistribution. The people who receive the food are either poor, abuse substances or have a mental illness. Two organisations seem to operate on an ad-hoc basis and it has not been possible to get in contact with them. Another organisation (Kirkens By-misjon) who serves food to the needy also wants to receive redistributed food but have not yet started to collect such food.

In addition to these organisations own efforts, one private person collects 600 tons of food per year from retail and food producers and redistributes to organisations all over Trondheim as well as larger parts of Norway (NRK Trøndelag 8.11.2014). As shown in

Table 15, the amount of food being redistributed annually is significant. The food comes mostly from retail, but wholesale and food production companies contribute significantly. The same retail company mentioned above (in Fredrikstad) dominates the retail donations also for Trondheim.

In Kristiansand there are at least 5 organisations serving redistributed food to social clients and others. Of the 4 responding organisations, two serve food and give unprepared food, 1 organisation only serves prepared food and the last only give unprepared food. The amount redistributed is shown in

Table 15. With the exception of IOGT only retail companies are mentioned as donors by the charity organisation in Kristiansand. IOGT operates on a large scale. They have their own storage facilities and receive food from a range of donors, mostly food producers and wholesalers.

7.5.3 Experiences with organisation of local and direct redistribution

Fredrikstad – All organisations have had long term relationships with their donors; in most cases with a duration of more than 10 years. The activities in the organisations depend very much on food donations, and so far it seems that there have not been problems to get food donations from local companies. There are no formal local agreements or contracts, most donations are either based on central agreements (one retail company) or on local personal relationships.

Trondheim – three of the four organisations that responded have collected food for many years (> 5 years) but they do not have any formal

contracts. Donations are based on local personal relations. They depend in varying degrees on food donations. One important motivation to use redistributed food is to save money in order to be able to prioritize other activities. The organisations would like to receive more food.

Kristiansand – 2 of the 5 organisations have been doing the food redistribution for a long time, the other less than 3 years. All organisations rely heavily on donated food and, with one exception would like to have more food. IOGT, operating 12 centers for giving food responds that they always have less food than they would have like to have. 2 organisations have local agreements, 1 has regional and local agreements, the other two had none.

7.5.4 Access to food donors/potential for increasing food redistribution

There are potential for increasing food donations, especially from the retail sector. Only one chain is actively involved, and there are representation from all four big chains in the region. The most important food producers in the area are already involved in donations, and their capacity is probably relatively well covered. In all cities, the donors reply that they can give slightly more food, almost all reply 0–10%. Two donors reply that they could give more than 10%, they are located in rural areas outside the cities.

Retail

One retail chain is responsible for most donations in all three cities. As a general policy, this retail chain wants to increase the extent of their donations. The other retail chains also donate food, both from shops (Kristiansand) and associated wholesale units (Trondheim), but on a smaller scale.

Wholesale

Three wholesale companies give food in Kristiansand and Trondheim. One is donating from several distributions centers, whereas the two others donate in Fredrikstad and Trondheim.

Food producers

Food producers Mills (juice, salads and margarines), Friele (coffee), Tine (dairy), Nidar (chocolate), Nortura and Grilstad (meat) are mentioned as donors. Tine donates food on a regular basis to a large number of receivers all over Norway, including Trondheim and Kristiansand. They state that they could give 11–25% more food and that if more food banks had been established it would have been easier to meet this target.

7.5.5 Experiences with local/regional/national authorities – support and restrictions

In Fredrikstad, only one of the three organisations got some support from local authorities, as economic support to the organisation and through reduced costs of buildings. There has not been any problems with local food authorities so far, as all organisations are approved for serving of food. Important that there are not strict limitations on food redistribution.

Several organisations receive support for their activities. The situation in Trondheim and Kistiansand is quite different. In Trondheim 3 out of 4 organisations receive funding from the local government, e.g. Salvation Army at Furulund which rehabilitates drug addicts, is 100% funded by the local government. In Kristiansand only 1 organisation receives money, this is IOGT which gets funding from both the central and local governments. No organisations in Fredrikstad, Kristiansand or Trondheim reports problems with local food authorities.

7.5.6 Collaboration with national food banks – experiences and potential for improvement?

In Fredrikstad 2 of 4 organisations that have answered have collaboration with the national food bank today. Important for getting access to enough food for one organisation, probably not big benefits for the two others.

Kristiansand and Trondheim have no experiences so far with collaboration with the national food bank. 3 organisations respond that a food bank would be of help to them, 2 says it probably would, the 3 said no and 1 didn't know.

There have been discussions in Trondheim to create a food bank but so far none has been established. The organisations in Trondheim who are positive to such a bank states that it could be of help for them for several reasons. It would create a steady supply of food, they would have a greater variety to choose from, it would be easier to plan meals and it would involve less work.

7.6 Overall lessons to be learned from the survey

This is the first study aiming at identifying tendencies and areas of interest in relation to food waste prevention in the Nordic region, and it is also one of very few systematic studies ever carried out in other regions in Europe. It has thus not been possible to create a complete or even representative list of food redistribution in the Nordic countries. Rather,

one goal of this study has been to identify needs and possibilities for further research.

Furthermore, the figures given for amounts of food redistributed as well as donation and receiving capacities are estimates, mainly due to the lack of systematic record keeping in many of the organisations. Most charity organisations are preoccupied with meeting the needs of their clients and do often not have the human or economic resources to take out the potential for food donations in their local areas. In Denmark and Norway, big cities like Oslo, Århus and Copenhagen have not been included in the study. Smaller cities have even not been included in the national surveys, which means that the national figures are not representative for the whole country. In a following-up study, there should thus be a more representative sample of cities included in the survey, to get a more representative data set, to get an accurate picture of donated amounts on a national level. Also other kinds of redistribution channels than food banks and charity organisations should be included in a following-up study.

The survey indicate that locally organised direct redistribution is a significant contribution to prevention of food waste and to social security for low income people in all countries. This does not mean that it will contribute to a big reduction in total amounts of food waste in each country, nor that a large proportion of low income people will be served with redistributed food. However, for those that are among the weaker groups, this is the most important service of the charity organisations, and donated food makes up more than 50% of served food in most organisations. It must also be remembered that the figures are still quite uncertain and that the regions studied not are representative for the whole country. Finland seems however to have a much better organized and a much higher number of serving places for low income people than the other countries.

It seems to be a great potential for food redistribution in all Nordic countries. Still, a significant amount of surplus food is currently wasted and a large number of charity organisations find themselves unable to serve the growing number of social clients in need of food and shelter. Thus, what is needed is the establishment of a well organised national and regional system with an infrastructure that is able to facilitate the redistribution of food from producer and retailer to the Food Bank or the local organisation. In this study, several possible solutions have been identified.

A main barrier mentioned by the local organisations is the lack of resources to establish and maintain a system for receiving food donations. Therefore, one way to better facilitate food redistribution from food pro-

ducers and retailers to local charity organisations is by providing access to monetary and human resources for the purpose of establishing and maintaining local systems for receiving food donations. This system also needs to include infrastructure such as storage and cooling facilities as well as solutions for transportation of food from the donor to the organisation.

Food redistribution has a long tradition in most countries, but is still relatively loosely organised by local relationships and direct contacts between persons in the charity organisations and food companies/retail companies. Central agreements between organisations and food and retail companies would certainly have made it easier to establish and manage local and direct redistribution. Those companies that have a clear policy and have made agreements with national charity organisations, have a much bigger impact for food redistribution than without such contracts. Charity organisations in all countries depend to a high degree on food donations for their work with serving low-income people, as more than 50% of all served food has been donated. Serving meals based in donated food is economic feasible, as the cost per served portion is very low compared to other types of services.

Lack of predictability of how much food and which types of food that will be available, gives the kitchens of charity organisations big problems in planning of meals. Most charity organisations say they can take more food from donators, and better organisation would definitely make the day easier for them. Most organisations operate without much direct support from local municipalities, and some economic support to operate food redistribution would also make things much easier. It is also a need to improve logistics and capacities for freezing and cooling to keep the food in good conditions. Increased collaboration with “national” food banks which can have potential for increasing and reducing the uncertainty for direct redistribution, and it is positive if the food banks take this role. Enough man power and capacity to get enough food in, prepare the food and serve it is the most important bottleneck for local charity organisations. This could certainly be improved by increased support from social authorities and municipalities. As the price per meal is very low for serving food and the need is probably a lot higher than registered today, it is positive both for the clients and for the social authorities to increase the activities.

From the side of the donors, a main concern is the potential uncertainties regarding legal matters, especially concerning food safety and legal responsibilities. One way to overcome this barrier is by making sure that the current national regulations and control functions not makes it more difficult than necessary to redistribute food, as long as it

is done in accordance with food safety requirements. Another important step is to establish clear guidelines for food producers and supermarkets that wish to donate food, so that future donors are not in doubt of the legal framework surrounding food donation. It would certainly help the local organisations if national authorities made it clear that food donations is regarded to be a positive and safe way to prevent food waste. Today, food donors are often split in two groups; those that do not want to stay ahead as donors and those who want to tell it open as part of their company's social responsibility programs. If it is made clear from both authorities and the food and retail industry that safe and well organised food redistribution is a positive activity, it will be much easier to be open with redistribution. A more radical approach would be to implement incentives for food producers and supermarkets to donate surplus food to food banks or charity organisations, either by increasing the costs of food incineration or by introducing financial schemes that reward the donor. This latter approach would have to be carefully adjusted so as not to give incentives to purposely produce surplus food.

There are very little contact between the regional and local charity organisations and public authorities with regard to food donation and food redistribution. Most organisations do not regard food safety regulations to be a problem for food redistribution today, and in Finland and Norway, it has been developed quite clear guidelines and standards for how to operate in food redistribution. On the other hand, there is very little support given to organisations, both social authorities as well as other authorities, except from Finland. Those authorities seem not to regard food redistribution as an important action, neither for food supply to low income people nor for waste prevention.

Furthermore, the lack of a tradition of food donation on a large and more official scale in the Nordic countries means that those efforts are still in their infancy. Overall, a change is needed in the way politicians and food donors and retailers think about such activities. It will take time to promote such a change, but the results are likely to enhance the possibility for addressing environmental and social issues through food waste prevention.



8. Overall conclusions and recommendations

8.1 Food redistribution in the perspective of waste prevention – what is the potential

Redistribution of food has been in practise for many years all over the world, since the first food banks were started for more than 50 years ago in the US. Direct redistribution has also been occurring in all Nordic countries for many years locally and regionally as this study has documented, and it is currently a wide-spread activity in most countries. The main reason behind redistribution has been social security, where charity organisations have contributed to better life conditions for low-income people through serving of meals and delivering food bags. The new dimension of food redistribution in the last few years is that preventing food waste has been a positive side-effect for the society.

Food redistribution is occurring in all cities and regions that were studied in this project, and several charity organisations are involved in these activities. It is not known to what extent the regions involved in the survey are representative for the situations in each of the Nordic countries. It can be expected to have a higher importance in larger cities and urban areas than in smaller cities and rural areas, but this need to be more deeply studied in a following-up study.

At present there are very few systematic studies carried out for redistribution of food, and especially direct redistribution as defined in this study. Some results are available from the networks of food banks, as they have to register the amount of food being received from donators (FEBA 2014). This study has been a pilot study aiming at developing methodologies for studying food redistribution and conducting pilot studies to test the methodologies and get some preliminary results. The study has documented a need to go deeper into the issue in a following-up study and to get a more comprehensive and complete picture of the activities going on in each country.

In many/most cases more than 50% of food redistributed by the charity organisations comes from food donors. This is however not a limit for how much food that can be redistributed, as most organisa-

tions say that they can redistribute more food than what they do currently, and the involved donors also say that they have the potential to donate more food.

The need for food redistribution is well documented, as most charity organisations say they could not continue serving the current amount of social clients without food donations. The organisations foresee an increased demand for free meals served and food bags given to low-income clients in the future, and this is likely to further increase the need for food donations.

In Table 16 below we have summarized the main findings from local redistribution of food in the Nordic countries, based in the regional studies carried out. As can be seen, the average number of meals served per year per 1,000 inhabitants varies between 217 and 335 (excluding Finland as an outlier), whereas the number of food bags delivered per 1,000 inhabitants varies between 17 in Sweden and 522 in Finland. Those figures should be used with a lot of care, since the calculations are based in a number of uncertain conditions:

- First the estimates are based in intervals from questionnaires where the middle value of the range is used to estimate the number of meals served.
- Second, average weight of food bags and meals have only been estimated (6 kg and 0.5 kg of food per bag and meal respectively, based in literature data and information from interviews), without doing any attempts to quantify average portions.
- Third, the charity organisations that are included in the study in each region are not necessary giving a complete picture of the region, as some organisations have been missed in the survey.
- Fourth, the regions included are certainly not representative for the whole country, neither in Sweden, Finland, Denmark nor Norway. Large cities have traditionally a higher share of low income people and social clients than smaller cities and rural areas.

The figures in Table 16 are thus only giving coarse estimates for the amount of food redistribution in the Nordic countries and should be further worked out in a Phase II of the project to estimate national figures for food redistribution via food banks and via direct distribution.

Our pilot survey of direct redistribution indicates that direct redistribution today have a much larger volume than the amount of food being redistributed via “official” food banks alone. The study also indicates that it can be a great potential for increasing the amount of food being redis-

tributed in the Nordic countries from the present status, and most of the charity organisations say there is a need for more food donations. Better organisation and clear guidelines from the food authorities nationally will make it more acceptable for the food industry and retail companies to donate food, and realise the big potential for redistribution. In Norway it is estimated that about 140,000 tonnes of food are wasted each year from the food industry and the retail sector, showing a big potential for redistribution even if the food being wasted is reduced with 25% as is the goal of the food sector.

Table 16: Summary of food redistribution in the regions studied per country

Country	Number of inhabitants in regions studied	Total number of meals served annually	Total number of food bags handed out annually	Estimated meals per 1,000 inhabitants	Estimated food bags per 1,000 inhabitants
Sweden	2,405,000	805,000	42,000	335	17
Finland	1,400,000	>45,000	731,000	32	522
Denmark	224,000	62,350	11,000	278	49
Norway	345,000	75,000	45,000	217	130
Total	4,374,000	987,350	829,000	225	190

Better registration of redistribution of food is important both from a traceability perspective as well as for documentation of amount of food being redistributed and prevented from the waste flows. In a next phase of the Nordic project the survey of food redistribution in the Nordic countries should be further developed, by doing case studies in a sample of regions and cities giving the opportunity to get representative figures for the whole country. There should also be developed registration systems for donation of food from retail shops, food manufacturing companies, hospitality companies etc., to get easier access to the necessary data. This can be developed with basis in the scanning of food that is not sold in normal ways which already are done by many companies, by defining a special category for food redistribution in the scanning system. We will propose to develop a project on systems for tracing and registration of food donations and redistribution in the Nordic region, in a collaboration between the Food Banks as system operators (see Chapter 8.2), the food sector (the whole value chain) and relevant ICT service providers. The concept for a tracing and registration system can be further described in a Phase II of this project.

8.2 Organisation and financing of food redistribution nationally and locally – potential for improvements

This survey has shown that there are significant differences in how food redistribution activities are organised in the Nordic countries, and that there are many models for how it can be organised. Finland seems to have a more extensive and well-organised local direct food redistribution system in place than the other countries. Also, redistribution of food is included in Finnish national food regulations. On the other hand, in contrast to the other countries in this study, Finland does not have an “official” food bank. The high degree of food redistribution despite the lack of a centralized food bank might be an effect of the long history of food redistribution in Finland as well as a positive focus of such efforts at the political level.

Food redistribution lacks a systems organisation in the Nordic countries and there should be developed a good model that integrates the food banks that operate on national and regional levels with local direct redistribution initiatives. Using Matsentralen in Norway as an example, this organisation could be developed as a “system operator” for food redistribution in Norway, with 3–5 regional distribution centers and a head office which should be combined with one of the regional centers. The role of the food banks can be to:

- Develop agreements and contracts about deliveries of food for redistribution with the central organisations of the food industry, the retail companies, hotels and restaurants etc., making it easier to establish direct contact on a local level. Direct food redistribution is most functional when the central organisation or headquarter has a clear policy on food donation to charity organisations, often with a long-term contract.
- Develop standard quality systems for organisations that are involved in food redistribution, both transport, storing and serving of food. Food banks could be responsible for certification of organisations in accordance with the quality systems, making it easier for donors to give food to redistribution.
- Develop competence in the organisations involved in redistribution, through courses and learning systems.
- Develop better systems and tools for tracing of food that is being redistributed, as well as for registration of the amounts being donated and redistributed. This is important both to manage quality of food and

to get better overview of the extent and sources of flows of redistributed food from donors to charity organisations. Information and Communication Technology (ICT) tools that both can function as planning and “ordering” systems for food to redistribution, as well as tracing and registration of amount and types of food being donated can be effective and efficient in this respect.

- Increase the logistic capacity in the redistribution chain, as one potential bottleneck preventing an increase in food redistribution seems to be a lack of logistical capacity to collect food at donors and to store the food under good conditions. Charity organisations will either have to increase their own capacity through increased economic support from local communities or through further collaboration with food banks or similar organisations (see next point).
- Develop a common understanding of food redistribution as a positive activity in society, to make it easier to develop local activities, as another important bottleneck seems to be a lack of confidence in the food redistribution system among many potential donor organisations. Locally, companies in the retail sector and food producers are sometimes reluctant to discuss their donating activities. One way to solve this bottleneck is for actors in the food supply chain, charity organisations and especially national authorities (food security, social security and environment) to make a clear statement and develop guidelines supporting food redistribution as a positive activity, as long as the food in question is not fit for selling in ordinary ways.
- Develop national and regional systems which do not compete with local direct redistribution. It is important that the well established systems for local direct redistribution, especially from retail shops and other local sources (primary producers, local food producers, food markets, festivals etc.) can be continued and further developed within the organisation of national/regional redistribution centers.

The food bank and food redistribution system in most or all Nordic countries seem to be under-financed in most countries at present, being dependent on short time, more project oriented financial resources. Food redistribution is a very cost effective way to prevent food waste and increase the quality of life of low-income and social clients, which should imply that both the food donors, the social welfare authorities and governmental authorities could have a role to contribute to a long term and more solid financial situation.

- The food donors can reduce their costs to waste treatment, which is about NOK 1,000 per tonne of food waste in Norway at present. With a big amount of food being redistributed in 2014 and a much bigger potential, annual saving of waste charges is significant, and a large proportion could be used to pay the food redistribution system.
- Social authorities will benefit from reduced costs for caring for low income people and social clients, and should also be able to support food redistribution more systematically through their annual budgets both nationally and locally. Price per meal distributed for serving through the food banks operations will be about NOK 4,40 based in net costs for food banks in 2013 (see Table 4), which is a quite low cost for the society.

8.3 Laws and regulations – Nordic harmonization to balance food security and waste prevention targets? What can other authorities do to promote food redistribution?

The most important authorities that could be involved in food redistribution are Food and Agriculture, Environment protection, Health and Social Security and Food Safety. Food safety and Health regulations are covered in this report in Chapter 5 and Section 5.3 with focus on need for clarification and harmonisation. It is nothing in this study that have shown a need for more regulations from other authorities nationally or on a Nordic level, as food redistribution is based on food that is donated in stead of being wasted. As this is an example of management of resources high up in the waste hierarchy and contributing to social security for needy people, both Environmental Authorities and Social Security Authorities could be more actively involved in promoting and supporting food redistribution. Food banks could be developed to take a clearer role as system operators nationally and regionally, but have so far received little or no economic support from government nor municipalities. FødevarerBanken has received start-up support from the Ministry of Social Affairs in Denmark and Matsentralen from the Ministry of Food and Agriculture in Norway, but with no clear statement for more long-term stable financial support. With a new role of Food Banks as system operators for food redistribution, there could be opened up for more stable financial support of food redistribution organisations nationally as well as locally.

8.4 Need for further studies

This first survey of food redistribution in the Nordic region is a pilot study both in our region as well as in Europe, especially with focus on both redistribution via food banks as well as direct redistribution locally. It is also one of few studies that take a holistic focus on both the extent of food being redistributed, on organisation of activities, on laws and regulations, on developing the methodologies for making the survey as well as an organisation of researchers and experts from food authorities to do the survey. A pilot study of such a complicated issue can thus only be a starting point for further work to be done, with a more detailed focus on some of the main issues.

As stated in Chapters 8.1–8.3 there are several areas that need to be followed up through more specific studies, either as a direct following up from this pilot study or eventually in other similar settings, in the Nordic region or on a European scale. The three areas that have been described and that are proposed as input to discussions for Phase II of the Nordic Food Waste project are:

- Following-up study on the quantification of food redistribution in the Nordic region, both via food banks nationally and regionally and direct redistribution locally. A following-up study should both have a macro perspective with focus on investigation of a sufficient and representative number of municipalities/cities in each of the Nordic countries, and a more micro perspective to make more detailed studies of a few redistribution systems over 1–3 weeks. This will be important to get a more accurate picture of the dimension of food redistribution, as well as on the potential for further development based in need for food security as well as from a waste prevention perspective.
- Development of food banks as “system operators” in food redistribution, with regional networks and good collaboration with local direct redistribution systems. The main outline for developing the role as system operator is presented in Chapter 8.2 and those elements that are most relevant for Nordic cooperation should be given priority in a Phase II of the project.
- Further development of practise of rules and control routines for both redistribution via food banks and especially for directly redistribution to charity organisations within the given EU regulations, based in the conclusions and recommendations made in Chapter 5.3.



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10. Appendix

List of contacts/interviewees

10.1.1 Finland

- A-Kilta, Turku
- Danone Finland Oy
- Evangelical Lutheran Church, Kirkkopalvelut ry
- Finnish Red Cross
- HOK-Elanto
- Hurstin Valinta, Veikko ja Lahja Hurstin Laupeudentyö ry
- Hyvä Arki ry
- K-kauppiasliitto
- K-market Kulinaari
- K-market Roihuvuori
- K-market Seilori
- Kokkikartano
- Korson ruokapalvelu
- Manna-Apu ry
- Myllypuron elintarvikeapu ry
- Operaatio Ruokakassi ry, Turku
- Oy Karl Fazer Ab
- Pelastusarmeija, The Salvation Army
- Pentecostal Church, Korso
- Punainen Risti, Finnish Red Cross, Raisio
- Snellmanin Kokkikartano Oy
- Soppakirkko, Helsinki, The Evangelical Free Church of Finland
- The Finnish National Organisation of the Unemployed – TVY
- Turun Katulähetys, Turku Street Missionary
- Turun seudun TST ry
- Vahti ry, Vantaa Homeless Support

10.1.2 Sweden

Recievers (also contacted on national level):

- Stockholms stadsmission (Stockholm City mission)
- Frälsningsarmén (Salvation Army)
- Svenska kyrkan i Nacka (The swedish church in Nacka)
- Stockholms soppkök (Stockholm soup kitchen)
- Convictus
- Ny gemenskap
- Göteborgs Kyrkliga stadsmission (Gothenburg City mission)
- Göteborgs soppkök (Gothenburg Soup Kitchen)
- Faktum
- Skånes Stadsmission (The city mission of Skåne)
- Frälsningsarmén (Salvation Army)
- Västerås Stadsmission (Västerås city mission)

Donors contacted:

- Fazer/ Skogaholm
- Pågen
- Brunkebergs bageri
- Coca-Cola
- Smiling faces (fruit)
- Willys
- Östermalmshallen
- Coop Hjorthagen
- Cafe Munkbron
- ICA (several stores and wholesale organisation)
- Borgs bageri
- Brynolfs bageri
- Scandic Malmen
- Linas matkasse
- Menigo

10.1.3 Denmark

Charity organisations, headquarters

- Blå Kors
- Dansk Folkehjælp
- Dansk Røde Kors
- Folkekirkens Nødhjælp
- Kirkens Korshær
- KFUM/KFUK
- Salvation Army

Charity organisations, local centres

Aalborg

- Aalborg municipality
- Café Væxt (municipality driven)
- Foreningen for hjemløse
- Kirkens Korshær
- KFUM
- Salvation Army

Esbjerg

- Esbjerg municipality
- Forsorgshjemmet (municipality driven)
- Himmelekspressen (municipality driven)
- Kirkens Korshær

Nakskov

- Lolland municipality
- Salvation Army

Vejle

- Himmelblå (municipality driven)
- Kirkens Korshær
- KFUM
- Salvation Army
- Vejle Herbergs venner
- Vejle municipality

Supermarkets, headquarters

- Coop
- Dansk Supermarked
- Rema1000

Food producers

- Arla
- Dan Cake
- Kellogg's
- Merrild Kaffe
- SuperGros
- Tulip + Mou

Event-based donors

- Roskilde Festival
- Sparta
- Stop Spild af Mad

10.1.4 Norway**National charity organisations**

- Kirkens Bymisjon
- Frelsesarmeen
- Evangeliesenteret
- IOGT
- Blå Kors

National donors

- Norgesgruppen (Kiwi headquarters) retail group
- Asko (wholesale)
- Tine (dairy producer)
- Nortura (meat producer)

Fredrikstad region

- Stiftelsen Blå Kors
- Frelsesarmeen
- Åpent Hus
- Kirkens Bymisjon
- Euroshop
- Kiwi-butikker
- Mills
- Nortura

Kristiansand region

- Frelsesarmèen
- Kirkens Bymisjon
- Blå Kors
- Filadelfia

Trondheim region

- Frelsesarmèen, 3 locations: Prinsens gt, Hveita and Furulund
- Kirkens Bymisjon
- Salem Menighet
- Omsorgscafèen
- Friluftscafèen
- «Hjelp oss å hjelpe»
- Melhus Bakeri
- Nidar (Chocolate producer)
- Kiwi shops
- Coop regional storage
- Bjørn Eklo (private person who collects food from shops and other places and gives to a number of organisations, e.g. Frelsesarmèen).

Kristiansand

- Kiwi shops
 - Rema shop
 - Rimi shop
- Meny shop

Food Banks

- fødevareBanken in Copenhagen (Thomas Fremming and Henrik Olsen)
- Matsentralen in Oslo (Gjermund Stormoen)
- Alwin in Gothenburg (Simon Eisner)



norden

Nordic Council of Ministers

Ved Stranden 18
DK-1061 Copenhagen K
www.norden.org

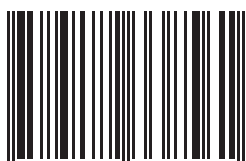
Food Redistribution in the Nordic Region

This report has a focus on waste prevention through redistribution of food to low-income people via charity organisations. Food redistribution can go via national food banks and via direct redistribution, often on a local level. Food banks redistributed about 1,5 mill meals in 2013, and local charity organisations probably 2–3 times more. The regulatory framework for food redistribution is described and discussed. The demand of and potential for redistribution is probably much higher than at present, and the reports points out strategies and measures for how food banks can contribute to secure and further develop. The report is part of the Nordic Prime Ministers' overall green growth initiative: "The Nordic Region – leading in green growth" – read more in the web magazine "Green Growth the Nordic Way."



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