



Systematic food donation in the food service and hospitality sector

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Reducing food waste through social innovation

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Colophon

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Authors	Katalin Újhelyi, Balázs Cseh (HFA)
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Project leaders	Katalin Újhelyi, Balázs Cseh (HFA)
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Summary

The objective of the Feasibility Study was to connect food service and hospitality companies (hotels, restaurants, central kitchens, and catering companies) that have regular food surpluses with charities ready to receive and distribute meals.

The main goal of the project was to develop a dispatcher service, creating a link between surplus and demand, and provide support in terms of knowledge, process development and monitoring.

The idea builds on the “traditional” foodbanking model where food manufacturers and retailers are connected with charities. From this model we adapted some processes and tools, making it relevant & workable for the food service sector.

We also incorporated the experience of existing projects targeting hospitality surpluses. The main findings from the existing project were the existing logistics processes of the redistributions and some aspects of the national adaptation of the EU level food safety legislation, especially the hot-cold-hot chain model.

The key output of the project is a guidance document with recommendations on implementing a cooked food redistribution programme, with guidance on planning the process, operation and distribution models, logistic process, information management, measurement/indicators of success, food safety and the legal framework, quality assurance and communication.

We have implemented a pilot in Hungary with the participation of 7 donors and 2 recipient organisations. During the pilot period 35 096 portions of food was saved and given to people in need. We consider this as a very good result, the conservative estimation (target) when we started our study was 10 000 – 20 000 portions. If we calculate the value with an estimated 2 EUR/portion, the total saved value is 70 192 EUR, already showing a positive return on investment just on a short term of the pilot period (the total budget of the FS is 52 326 EUR).

Both donor and recipient organisation are happy with the results of the pilot and are willing to continue redistribution activities in the long-term.

Final recipients (people in need) were also very happy, and the satisfaction with the quality, amount and variety of food were all very high. Donated food could in many cases also significantly change the way they conduct their life as well

“I stopped drinking and I eat regularly”

“I feel safe I will not starve today”

“I don’t have to spend money for lunch”

“I can give food to my autistic son – great help!”

“I eat more vitamins, I gain weight, I feel better”

There is great potential for redistribution from the hospitality sector and HFA has already started to exploit these opportunities and begun related dissemination activities.

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1 Introduction

1.1 Aims of the feasibility study

Our objective was to connect food service and hospitality companies (hotels, restaurants, central kitchens, and catering companies) that have regular food surpluses with charities ready to receive and distribute meals.

The main goal of the project was to develop a dispatcher service, creating a link between surplus and demand, and provide support in terms of knowledge, process development and monitoring.

Main elements of the project:

- mapping the current legal environment for donation from the food service sector
- creation of a proper logistics/monitoring procedure
- creation of IT support (for food transfer and monitoring)
- identification of donor and beneficiary partners
- need analysis/profiling of both parties (food service and charities)
- communication activities (including label creation)
- launching and running pilots
- planning of scale up activities, dissemination: international seminar for Food Banks and other multiplier organisations that can scale / replicate the findings
- evaluation of impacts
- creation of a good practice guide/ learning materials for caterers and for beneficiary charity organisations

Expected results

According to our conservative estimate, we expected the project to save 10,000-20,000 meals (value~30-60 kEUR) during the first year. Optimistically we estimated saving over 50.000 meals (over 150kEUR) in the pilot phase (1 year 5 months). The reduction was to be measured by the number of meals redistributed (based on transfer documentation – see in Appendix 2).

The replication potential of this project is significant, for example in the UK the amount of food that is wasted in the hospitality sector each year is equivalent to 1.3 billion meals¹ – even if a significant part of the food waste was in a state that could not be redistributed, there will still be meals that could be saved by a good model. Hence, the dissemination of this model to other Food Banks and other food donation organisations across Europe is essential for its success. The Hungarian Food Bank Association is a member of the European Federation of Foodbanks, using the existing networking possibilities within the FEBA network we expect to find partners in other FEBA member countries.

¹ WRAP (2013) Overview of Waste in the UK Hospitality and Food Service Sector
<http://www.wrap.org.uk/sites/files/wrap/Overview%20of%20Waste%20in%20the%20UK%20Hospitality%20and%20Food%20Service%20Sector%20FINAL.pdf>

1.2 Context of the feasibility study

The challenge

While several hundred thousand people in Hungary do not get enough to eat², 1.8 million tonnes of food gets discarded in Hungary³. There is no research data available but based on estimations a considerable proportion of this food surplus is generated by hotels, restaurants, canteens – in the food service and hospitality sector.

We estimate that around 5-10 thousand tonnes of food surplus could be saved annually through improved food redistribution activities⁴.

Food surplus is often created in the food service sector by unforeseeable events (e.g. not knowing how many people will be dining) and is thus hard to be reduced. In these cases redistribution (i.e. donation for human consumption) is needed, to prevent the surplus becoming waste.

Food donation often doesn't happen in the food service sector because there is a:

- lack of information on whom to transfer to (on the donor side),
- lack of logistics knowledge (on the recipient side),
- unclear food safety requirements (better to discard food to be on the safe side),
- lack of monitoring processes (to avoid misuse),
- lack of time and resources both on the side of caterers and charities to develop such activities on their own.

The food service sector presents unique challenges to effective redistribution in terms of shorter timelines, more rigorous hot/cold chain requirements, additional health and safety regulations and often smaller and more diverse actors involved.

Selection of project

This feasibility study was developed as an idea and submitted for consideration by a panel comprising WP4 core partners⁵ under the EU Fusions project. It was one of 39 ideas for social innovation projects, obtained via a stakeholder survey, assessed by the panel against a set of agreed selection criteria. After the proposal was selected and the final budget confirmed, the work on the project started in Spring 2014. This feasibility study is one of seven projects implemented in 2014-2015.

About the Hungarian Food Bank Association

The Hungarian Food Bank Association is a not-for-profit organisation that works to make a link between surplus food and deprived persons in Hungary through the means of information collection and publicity in order to help reduce poverty, hunger and malnutrition.

Since our foundation in 2005, we have distributed over 30,000 tons of food in Hungary worth over HUF 5 billion. Donations are distributed to nearly 500,000 people in partnership with almost 600 non-governmental organisations and municipalities.

For more information about us:

http://www.elelmiszerbank.hu/en/kik_vagyunk/elelmiszerbank_magyarorszagon.html

² Gallup (2014) Worldwide Research <http://www.gallup.com/poll/170795/families-struggling-afford-food-oecd-countries.aspx>

³ BIOIS (2010) Preparatory study on food waste across EU 27

⁴ Estimated based on existing number of restaurants in Hungary (approx 10.000, estimated number, based on information from MVI, FUSIONS stakeholder) and an average 10-20 meals/day for redistribution, based on the results of the pilots

⁵ For information on the selection process please go to:
<http://www.eu-fusions.org/index.php/about-fusions#wp4>

2 Background and Approach

2.1 Background on the feasibility study concept and principles

This project provides the opportunity to develop a flagship process for redistribution from the food service sector. The project covers the legal environment at an European level ; the relationships to be found and developed among the main stakeholders (especially donors and recipient organisations), the practical procedure to follow, the development of food redistribution label for donors to communicate on their activities, monitoring procedures to assure success both in terms of logistics and food safety matters, as well as guidelines and a seminar to help food banks across Europe instigate similar operations. This feasibility study addresses an enormous market (the food service sector) which is currently underexploited because its unique challenges in food redistribution have not been addressed previously in a comprehensive way.

What we built on

The idea builds on the "traditional" foodbanking model where food manufacturers and retailers are connected with charities. From this model we adapted some processes and tools, making it relevant & workable for the food service sector.

We also incorporated the experience of existing projects targeting kitchen/school canteen surpluses (e.g. Last Minute Market in Italy - <http://www.lastminutemarket.it/> and Dariacordar, Portugal - <http://www.dariacordar.org/>). The main findings from the existing project were the existing logistics processes of the redistributions and some aspects of the national adaptation of the EU level food safety legislation, especially the hot-cold-hot chain model (see the distribution models in the Guidelines). Additional research included information collection from other EU countries where we have obtained valuable information from Finland⁶ and France⁷ so we clarified the food safety requirements and learnt from best practice.

Furthermore the pilot was very timely since:

- In 2014-15 the EU Food Aid Programme stopped and its new structure is still under development in Hungary, therefore charitable organisation need new food aid sources and partnerships.
- We have experience with collecting food with short expiry date (e.g. for 2 years we have been working with METRO⁸ to donate food that expires on the day of donation). We have developed partnerships with charities that are flexible enough to receive & use short-date-coded food, and we have developed processes, quality assurance tools etc. to enable us to divert good food from landfill.
- In March 2014, together with the Hungarian Ministry of Rural Development, we launched the Forum for Reducing Food Waste and Food Loss.

⁶ EVIRA (2013) Foodstuffs donated to food aid, Finnish food safety agency http://ec.europa.eu/food/safety/food_waste/library/docs/ruoka-apuohje_evira_2013.pdf

⁷ DRAAF (2013) Food donation guidelines for the catering sector, Direction régionale de l'alimentation, de l'agriculture et de la forêt de Rhône-Alpes http://draaf.rhone-alpes.agriculture.gouv.fr/IMG/pdf/Guide_dons_restaurant_sept2013_cle091e14.pdf

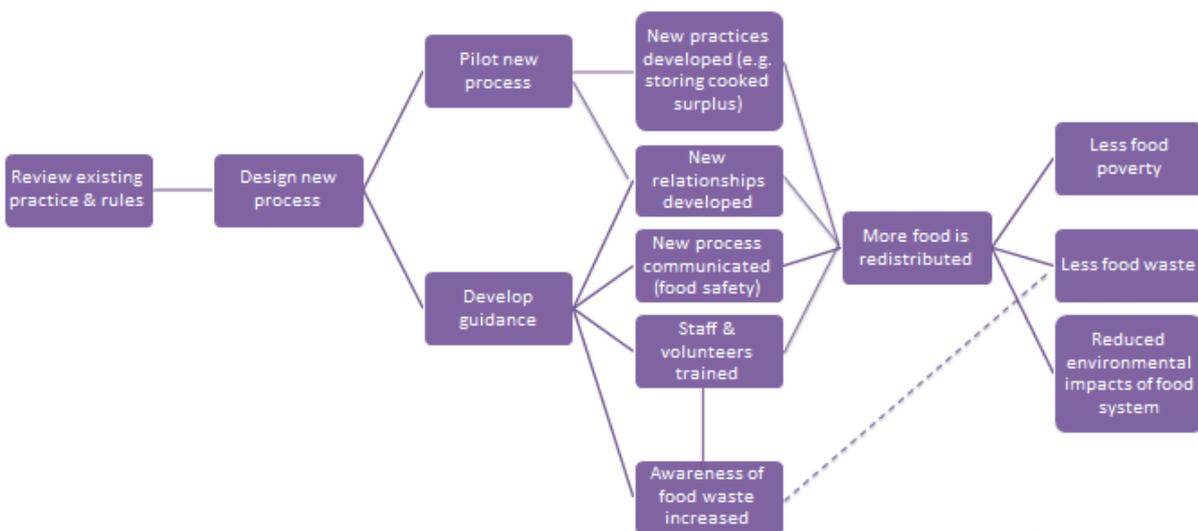
⁸ http://elelmiszerbank.hu/en/projektjeink/aruhazi_expressz_arumentes.html

- The EU project Forward (<http://foodrecoveryproject.eu/>) (that we participated in) published its results including e-learning materials for food companies on how to reduce and donate food waste.

2.2 Approach of the feasibility study



Food service redistribution



3 Overview of results

3.1 Main results

Guidance document

The key output of the project is a guidance document with recommendations on implementing a cooked food redistribution programme, with guidance on planning the process, operation and distribution models, logistic process, information management, measurement/indicators of success, food safety and the legal framework, quality assurance and communication.

Benchmarks

When starting the Feasibility Study, first we gathered information via FUSIONS Social Innovation Database and the European Food Bank Federation network about existing initiatives targeting hospitality surplus redistribution.

Based on Internet searches and skype conversations we selected 3 projects for personal visits. The aim of the study visits was to understand their work process, policies, results, monitoring, and food safety measures. The visited projects were:

- Study visit at Dariacordar, Portugal.
- Study visit at Citicibo (Food Bank), Bologna.
- Study visit at Last Minute Market, Bologna.

During the personal visits we asked the host organisation to organise an on-site visit of an actual redistribution, where we saw the actual takeover and transfer from the donor to the recipient organisation and talked to the relevant personnel involved in the process. Besides the visits we conducted consultations with the host organisations and asked for the related documentation associated to the redistribution process.

The visit to Citicibo and Last Minute Market happened at the time of the FUSONS WP3 social innovation workshop held in April 2014 in Bologna, so the visits did not require any additional travel costs. The cost of the visit in Portugal (Dariacordar) was paid from the Feasibility Study's travel budget.

The main outputs from the visits included the knowledge from the redistribution process, adaptation of food safety requirements, photos and related documentation.

The main lesson learned from these visits, were the understanding of the different models and their potential, as well as the understanding of the importance of a good relationship and cooperation between the coordination organisation and the local food safety authorities.

Legal environment (and other documents)

- We gathered, examined and compared policy documents and practices from Portugal, Finland, Italy, France, Germany and Egypt (Hilton).

- Legal documents from Finland and Italy and the replication manual from Dariacordar, Portugal were translated to English. Some of these⁹ were shared with and also published by DG Sanco on their website as best practices: http://ec.europa.eu/food/safety/food_waste/library/index_en.htm
- According to our research the biggest difficulty in implementation is the food safety rule that cooked food can only be cooled down right after cooking (therefore according to this rule, if strictly interpreted, leftovers at the end of the day cannot be refrigerated). The critical point is the national understanding and adaptation of the term "as quickly as possible" from the Regulation (EC) No 852/2004, ANNEX II, CHAPTER IX, Section6: "Where foodstuffs are to be held or served at chilled temperatures they are to be cooled as quickly as possible following the heat-processing stage, or final preparation stage if no heat process is applied, to a temperature which does not result in a risk to health."
- We contacted and consulted DG SANCO (renamed in 2015 for DG SANTE - http://ec.europa.eu/dgs/health_food-safety/index_en.htm several times. Exchanged information about existing know-how (France, Italy, Finland), asked for clarification about conflicting legislation matters on cooling after and of service period. DG SANCO arranged for our participation on a targeted working group in the autumn of 2014. and we received a positive communication from DG Sanco saying that "In our view, Regulation N°852/2004 on the hygiene of foodstuffs cannot be utilised as a basis for prohibiting cooling of meals at the end of service in order to facilitate food donation from the food service/hospitality sector." – this is a very important statement meaning the EC does not prohibit and thereby fully accepts the Hot-Cold-Hot temperature chain model (see the Guidelines), the model that is mostly used in the existing projects.
- We had several meetings with the Hungarian Food Safety Authority. The negotiations are still ongoing but the reference from other countries and the statement of the Commission provide a very good chance for the acceptance of the Hungarian version of the Guidelines in the near future.
- We decided that the roll-out in Hungary will only be started when the full Guidelines are accepted as in the current general Good Hygiene Practice Guide, for hospitality operations there is an existing section for donations but the current content is limited and is not fully in line with our new guidelines.

Pilots

- To prepare the pilots we screened the potential recipient organisations' needs: organisations were selected from the existing partner network of the Food Bank, visits and interviews were carried out with 5 different charities (altogether 10 contacted, 2 declined to participate in pilots due to not having capacity). The selection involved an invitation-based call for applications. For the pilots project, we selected those charities that were open, flexible enough (e.g. able to react immediately or during evenings and week-end days) and have the infrastructure needed (e.g. cars for transportation, refrigerators at their premises). The information collected also included the capacity of the redistribution (how many people in-need the organisations regularly serves) the target age groups (children, adults, elderly) and also the type of delivery (soup kitchens, home delivery, serving packages for self-delivery) These charities are some of our best and most reliable partners.
- Implemented pilots

1. Sodexo school kitchen – Hungarian Charity Service of the Order of Malta

⁹ Finland – Foodstuffs donated to food aid Finnish food safety agency (EVIRA), 2013

Italy – Food donation guidelines of Emilia Romagna

Portugal – Procedures for food donation in catering sector, Dariacordar/ASAE

- The pilot was implemented with the participation of Sodexo (a kitchen operated in a school) and a nearby homeless shelter for the Charity Service of the Order of Malta between 16 May – 13 June 2014 and November 2014 – June 2015.
- There were 12,000 portions saved.
- For the second phase of the pilot the Maltese officially registered their local kitchen as a “serving kitchen”, thus plastic boxes were not needed anymore, and the food was transported in large metal containers. Serving kitchen registration includes the availability of a set of required infrastructure items (e.g. 3 phase dish washers and heaters), the advantage of having a registered serving kitchen is the availability of the re-heating option for the recipient organisation (allowed legally) and the transportation of food in double wall containers instead on one time usage plastic boxes that provides a much lower cost option in the long-term.

2. Westend shopping mall restaurants – Caritas

- An agreement was established with the real estate company (TriGranit) operating the mall. This was considered as a pilot and if successful it will be extended to other establishments in Budapest and in other countries (Poland, Romania, Slovakia, Croatia – Trigant is a multinational company, Sodexo, the partner in the other pilot may also be interested in extending the pilot in other countries, but we haven’t discussed this with them yet)
- 6 restaurants at Westend City Centre shopping mall (one of the largest shopping malls in Budapest) donate their leftover food every day (including weekends) to the homeless shelter operated by the Catholic Caritas.
- The pilot has been running since 2nd September 2014.
- 23,096 (as at 20 September 2015) portions of cooked food and 1513 kg of bread and bakery products were saved.
- As preparation
 - 15 restaurants/shops were contacted in the shopping mall. Most of the restaurants are self-service restaurants (except one, that is serviced), offering various type of food (Greek, Chinese, Hungarian, mixed hot food, sandwiches, burgers) some of them SME-s, run by private individual, some of them being part of chains (NordSee, BurgerKing, Leroy) 9 declined participation (8: no leftover, one: no human capacity to package and no fridge capacity to store)
 - We developed a detailed process description and take-over document and reporting document for Caritas and their restaurants (see in Appendix)
 - Parking and transportation was arranged
 - In preparation for starting the takeover process Caritas arranged the necessary staff for take-over, transportation and redistribution as well as the availability of a car to be user for transportation from TriGranit to Caritas.
 - We established reporting and monitoring processes internally (in Food Bank) in order to keep track of the redistributed volumes and asked for weekly reports from the recipient organisations, The reporting and monitoring useand include the following data:
 - Donor
 - Recipient
 - Date
 - Volume

For the purposes of the pilot a simple Excel based data collection was sufficient, a preparation of a functional specification of a web based application has also been started during the execution of the pilot – the application will be funded by another grant and will include reporting and monitoring functions for future redistribution activities. A web based application will be needed in case of large number of participating organisations.

- Start-up communications towards restaurants – the restaurants were approached together by the PR department of Westend about the planned launch date and process description for take-over.
 - Plastic boxes and printed labels were purchased, this starter kit was distributed to restaurants. (Total cost: 3500 EUR)
 - A launch meeting with Trigranit, restaurants, Caritas and us (Food Bank)
- At the end of the initial testing months, all parties (Trigranit, restaurants and Caritas) decided to continue the project.
- After the first month Caritas carried out a survey among the homeless and other people who are the recipients of the food. 43 people were asked at the end of a food distribution session verbally and questions were answered by the recipients of the redistributed food. The survey showed some good and some unexpected impacts. These were also shared with Trigranit and restaurants. The main findings were the following, (on a scale of 1-10, where 10 is the highest satisfaction):
 - Average satisfaction with the quality of food: 9
 - Average satisfaction with the amount of food received: 9,27
 - Average satisfaction with the variety of food: 8,72
 - Did the donated food changed your life conduct?: 8,92 (yes), some comments:
 - “I stopped drinking and I eat regularly”
 - “I feel safe I will not starve today”
 - “I don't have to spend money for lunch”
 - “I can give food to my autistic son – great help!”
 - “I eat more vitamins, I gain weight, I feel better”
-
- During the first almost 2 months of the pilot we encountered several difficulties (plastic box sizes were too small and there were not enough of the bigger boxes, content on the labels was too heavy and time consuming for donor staff, reporting format was not clear enough, some employees on the donor side were not sufficiently informed about the process), the communication and the work process has been improved in several aspects (change of box size, change of ratio of 2 types of boxes, change of label content, reporting format and communication chain). A visit to the Caritas homeless shelter and monitoring of how distribution was done and some ensuing issues have been resolved afterwards.
- Bite, a nearby high profile bakery (TriGranit’s contact) joined the restaurants as a daily donor: initial meetings included them, Caritas and us and the redistribution process was based on those negotiations which allowed Bite to be included in the take-over list for Caritas
- TriGranit helped us in the communication to the restaurants. Communications included both formal and written channels (internal news, mails) and informal/personal channels - by the personal involvement of the Corporate Social Responsibility Manager.
- There were no drop-outs during the pilot, all restaurants kept running the redistribution for the whole pilot period.
- General feedback from the restaurants was positive, the process for them was simple enough and therefore feasible. Feedback from employees was also positive, most people felt happy about donating food instead of wasting it.
- Potential donors contacted, process pending until food safety requirements are clarified:
 - Marriott Hotel,
 - Hilton in Westend,
 - L+Z lunch delivery company,
 - Touche Event catering company,
 - Epiteszpince restaurant,
 - Canteen of the Central European University,

- Association of Hungarian Catering Companies,
 - HORECA Marketing Club,
 - Meeting with VIMOSZ (association of hospitality companies),
 - Touristic and Catering Employers National Association.
- Potential donors contacted but declined participation:
 - Vakvarjú restaurant: no leftovers,
 - Mákvirág canteen: no leftovers (they mainly prepare grilled meals per request at the end of the serving period, thus they avoid producing leftovers),
 - Budapest Party Service: the chilled cooked food is already donated,
 - Egal-Team canteens: no leftovers,
 - Four Seasons: negotiations stopped (without any concrete reason mentioned),
 - Náncsi néni restaurant: negotiations stopped (without any concrete reason mentioned).
- Potential donors where measurements provided no substantial leftovers:
 - Prezi menza: measurements were implemented and left-over quantities were found to be too small.
 - After preparations one very short test conducted jointly by Fruccola and HFA team and implemented by Fruccola (self-service restaurant) proved not to have a considerable amount of surplus, so pilot was cancelled. The main reason was that although there was a little amount of surplus (4-5 sandwiches + 2-3 packages of salads) but these were distributed among the employees so no additional surplus was available for charity redistribution

Logistics

- Different packaging options were screened, most suitable chosen and tested. Selection criteria was:
 - Several sizes of boxes from the same vendor
 - Microwave compatibility
 - Lowest possible price
 After considering all the factors a decision was made to use Hagner PP boxes in 2 sizes: 1000 ml and 2000ml.
- The original plan was that purchasing would be completed by WRAP in the UK. However due to the longer purchasing process (more complicated tax and accounting administration) as the buyer (WRAP) was from outside Hungary, several smaller individual purchases had to be made prior to the main bulk order by WRAP (for urgent need in pilots).

Communication

- A Press release was sent out at the start of the project. It was picked up by and shown on the the largest and most important online media portal which is read by food chain/industry professionals in Hungary :
http://www.elelmiszer.hu/friss_hirek/cikk/tarsadalmi_innovacioval_az_elelmiszerpaz_arias_ellen?utm_source=newsletter&utm_medium=elelmiszer_online_napi_hirlevel&utm_campaign=11596
- A presentation on FUSIONS SI projects at the "Day of Profession", a major food industry conference summarising the main outcomes of the Feasibility Study – found at <http://eu-fusions.org/index.php/presentations-rpm-2015/category/27-third-central-europe-regional-platform-meeting>
- We raised the topic at the Hungarian Forum Against Food Loss and Waste "Food is value" and a working group, including relevant stakeholders, is being planned to be launched on this topic.
- A poster was created, and displayed at a FUSIONS Meeting in Bologna; Forward meeting in Venlo in May 2014; Food Bank information day in May 2014; FUSIONS EPM in October 2014.
- A revised poster was then created in order to raise the awareness about the Guidance document to be used at events during the last phase of FUSIONS (e.g. was already used during the kick-off meeting of the REFRESH project)

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- Local media communications of the pilots were suspended until the food safety concern of “prohibiting cooling of meals at the end of service” is resolved. We will start local media communications after agreement with the national food safety authority.
 - Label proposals have also been created and included in the Guidance document

3.2 Assessment of results

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
1. Number of portions redistributed	Short-term impact of the study	reports based on take-over administration	35,096 portions saved (data from May 2014 till 20 September 2015) Calculation of portions was made by case-by-case estimation at the takeover of the surplus food from the restaurants, estimation provided by the donor and checked by the recipient.	Very good result, the conservative estimation (target) at the start of the study was 10,000 – 20,000 portions. If we calculate the value with an estimated 2 EUR/portion, the total saved value is 70,192 EUR, already showing a positive return on investment just in the short term of the pilot period (the total budget of the study is 52,326 EUR) Although we have to mention we haven't reached our optimistic estimation (50.000 portions)
2. Weight of redistributed food in study	Short term impact of the study	calculated with an average 0.4 kg/portion size (usual calculation method used by food banks)	14,038 kg	Recipient organisations were both very satisfied with the overall amounts received
3. Type of redistributed food in study	Qualitative evaluation of studies results	Personal interview of representatives of recipient organisations	Sodexo school: lots of soup and garnish, stews Westend: lots of Chinese type of food, soups, mixed variety	Sometimes unusual types and mixes of food , restaurants provided better nutritional quality

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
4. Size of each donation 'instance'	Assessment of long-term sustainability of redistribution	Calculated from reported data	Sodexo school: average 73 portions/day Westend: average 12 portions/restaurant/day (72 portions/day from the 6 restaurants)	Portion/day data provide long-term feasibility for redistribution projects, provided that smaller scale donors either a "grouping" is required (as in the case of Westend) or a nearby recipient organisation (to be able to keep logistical costs low)
5. Clarity about the 'diversion' i.e. where the item would have been disposed of if not redistributed	Assessment of value added by redistribution	Personal interviews with donors	If not saved, the food from Sodexo would otherwise end up in a biogas plant ¹⁰ , and the same would happen to food saved in Westend. Sending waste via this channel also creates cost for the restaurants (approx 0,1 EUR/kg)	Redistribution provides a clear opportunity to step upwards on the food waste pyramid. Saving costs create additional benefit for donors.
6. Number of donor organisations (type, location, green philosophy) (also capture data on organisations that don't participate to show potential ¹¹).	Assessment of exploitation potential	Personal interviews with donors, Internet research (via donor websites)	7 (Sodexo + 6 restaurants from Westend, including Chinese, Thai, grill, and mixed food restaurants) Sodexo having a strong Corporate Social Responsibility activities – also in relation to food waste, the others have no special CSR activities, they are all "average" hospitality service providers	The study showed that service providers with different types of activities can be a good partner for the redistribution and a strong CSR policy is not required – this gives a very good outlook for future exploitation

¹⁰ <http://biofilter.hu/etkezesi-hulladek-begyujites/>

¹¹ The rationale for understanding the 'green philosophy' of participant donors is useful to determine what sort of internal policies & strategies an organisation needs to have to enable them to become a donor. Potentially this will be a recommendation from the study.

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
7. Waste levels at donor organisations – do they change their behaviour at all to reduce waste now they see what’s generated?	Assessing the decreasing potential of waste by redistribution activities	Calculated from reported data	<p>Westend</p> <ul style="list-style-type: none"> • Oct: total 156, average 14.2 portions (5.7 kg)/donor/ day • June: total 141, average 13.3 portions (5.3 kg) /donor/day <p>Sodexo</p> <ul style="list-style-type: none"> • Nov: average 82.1 portions (32.8 kg) /day • May: average 65.6 portions (26.2 kg) /day 	Results show a clear positive impact on decreasing waste although we have to mention that the results may have been affected by other factors as well. In both cases there is a decrease but whether or not this is due to the pilot is not certain. Two of the three donors that answered the questionnaire said that in the past year the quantity of food waste has decreased in their kitchen. One said it did not change (this was Sodexo where in fact data shows decrease).
8. Data to show what the products collected are used for (which groups / individuals take them / where they are eaten (alone or in communal setting e.g. a shelter))	To confirm that they are in fact used (rather than subsequently thrown away) & to demonstrate the health benefit of those taking & eating the produce e.g. if they go to a shelter or similar.	Survey and personal interview by HFA of 5 representatives at the 2 recipient organisations (see the questionnaire in appendix)	Two different homeless shelters. One belongs to Hungarian Maltese Organisation and is a large institution with different functions (day care, overnight stay, washing, medical etc.) The Hungarian Charity Service of the Order of Malta operates several shelters in Hungary and have other social care activities as well (detailed information can be found at http://www.maltai.hu/). The other recipient is a small day care of the Hungarian Catholic Caritas. Caritas also offers a large range of social activities	Result showed that almost 100% of the redistributed food was to people in need, thereby resulting in an almost full use of the available surplus.

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<p>including the operation of homeless shelters and a number of home care activities around local parishes (more information at http://karitasz.hu/). In both shelters food is mostly eaten in the kitchen/communal area. At Caritas some of the food is distributed to families living nearby, this food is consumed at home.</p> <p>Maltese report that 100% of food received can be donated/consumed. Caritas report that 95-97% of food received is fit for consumption.</p>	
9. Feedback of participants & donors –	To get an understanding of the benefits they accrued from the project	Questionnaires (see in Appendix 3) and qualitative interviews executed by HFA	<p>Donors:</p> <ul style="list-style-type: none"> • 3 of the 7 donors answered (Sodexo + 2 restaurants from Westend) the questionnaire in July 15 • All are fully satisfied with the programme • All think the food saving runs very smoothly • Main advantaged perceived: reducing waste mgmt. costs, good deed, fits in Corporate Social Responsibility strategy, the best way to deal with 	The results show clear positive feedback from both the donor and the recipient side. Despite some minor challenges every participant is willing to continue the redistribution activities in the long-term. This gives us a very good exploitation outlook.

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<p>leftovers</p> <ul style="list-style-type: none"> • The only disadvantage is that they spend around 3-15 minutes/day with the tasks involved, but this was evaluated still as a feasible effort from their side • How did the motivation/behaviour of employees change: they got to know and to appreciate the work of the charities; they are happy food does not get thrown away; they pay more attention to use of raw materials. • How they would develop the programme: involve more donors <p>Charities:</p> <ul style="list-style-type: none"> • Both charities answered our questionnaire in July 2015 • Main advantage is to be able to provide hot food for their beneficiaries (none of the institutions provided cooked food outside of / before the programme). As the food attracts more people, they are able to reach out to more and to involve more people in using their social services 	

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<p>(such as counselling). They can provide a more complex service.</p> <ul style="list-style-type: none"> • Maltese spends 1 hour/day with the tasks involved; 3-4 of their employees take part. Caritas spends total 10 hours/day, 3-4 employees take part daily (total 13 employees and 3 volunteers involved). • Challenges encountered by Maltese <ul style="list-style-type: none"> ○ Lack of a car they could regularly offer for the redistribution – Sodexo solved this by carrying on foot (the distance is only about 200 m) but in other further away donors, this could create problems ○ It was not easy to register the serving kitchen at the beginning due to the official requirements not being fully clear, but a personal consultation with a representative of the food safety authority helped to solve the unclear issues • Challenges encountered by Caritas: 	

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<ul style="list-style-type: none"> ○ Work schedule of services and timetable of employees had to be changed to fit in the lunch ○ They had to deal with the much increased waste (plastic boxes, throwaway plates). ○ Extra work of receiving, storing, distributing the food and administration: some employees/social workers did not think this was a good idea and left. ○ Increased need for cleaning. Some of the beneficiaries also take part in this. ○ Difficulty having all-staff meetings as someone has to attend to distribute the food. <p>Impact on people's lives who receive the food (at Caritas¹²):</p> <ul style="list-style-type: none"> • All respondents said the food did bring change to their life: drink less alcohol, feel safer (as there is a portion of food for sure), better quality of 	

¹² Based on answers to a questionnaire survey they made in October 2014 among beneficiaries – details see at the pilot descriptions

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<p>life, no need to spend money on lunch, life got more orderly, more hygienic eating, regular access to hot food.</p> <ul style="list-style-type: none"> • What do they use the spared money for: clothes, shoes, medicines, paying bills etc. 	
10. Number of volunteer hours. Estimated and including only the significant task items	Assessment of overall resource requirement of activities	Interviews with representatives of the recipient organisations	In all organisations it is employees doing the work. Caritas has volunteers helping 8-10 hours weekly in the redistribution.	Volunteers were not heavily involved in the execution of the pilots. Higher level of volunteer involvement (e.g. volunteers acting in shipping and redistribution activities instead of paid staff) could save more costs on the recipient organisations' side, potentially providing an even better efficiency of the redistribution activities.
11. Match funding (time / financial) from project partners.	Assessment of long-term sustainability of the activities	Interviews and reports from participants	<ul style="list-style-type: none"> • Donors report no extra cost besides the manpower costs. Based on the estimated time used for the redistribution from the donor side the estimated match funding is total approx 150 EUR / months for the participating restaurants (employee manpower cost) • Costs for Maltese: purchase of large metal food containers. No permanent 	For the Maltese the long-term sustainability is no question. For the Caritas some budget has to be associated with the project. An additional activity might be targeted fundraising for the redistribution tools and costs. The coordinator organisation (For Hungary, the Food Bank) needs to fund its coordinating resources – HFA is willing to finance it on a long-term basis.

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			<p>costs. (Transport is not needed as the school is in short walking distance.)</p> <ul style="list-style-type: none"> • Costs for Caritas: transportation: driver, fuel; plates and cutlery (disposable), bin bags. Total costs: ≈410 EUR/month Total working hours: 350/month • Cost for Food Bank: purchase of plastic boxes for Caritas. and project management time related to the coordination (as in the pilot the planning activities were strongly mixed with the coordination. We couldn't clearly separate and calculate "coordination only" efforts and costs • Creation of labels was funded by Well Advertising Agency 	
12. Number of food saving communication activities (instances) to raise awareness of food waste, generally	Helping the dissemination of FUSIONS	Collection of dissemination events and articles	Because of the ongoing legal arrangements we haven't yet communicated the launch of the roll-out of the hospitality redistribution activities, but we have communicated about the preparation. During the study period a Feeding the 5000 event was also organised in Budapest	The general awareness about the problem of food waste in Hungary was significantly increased by general public along the project; this will also help the future exploitation activities.

Evaluation criteria	Evaluation goal	Measurement/ sampling/ calculation method	Results	Analysis/comment
			with a large number (over 100) media appearances (the detailed report of this can be found in the WP5 report of FUSIONS)	

4 Conclusions

SWOT analysis

<p>Strengths</p> <ul style="list-style-type: none"> - Study showed good potential and existing interest from both donor and recipient side - Redistribution is feasible both from logistical and EU level food safety point of view - Potential saved volumes and values are very high 	<p>Weaknesses</p> <ul style="list-style-type: none"> - More flexibility and resources may be required from the recipient organisations compared to the packaged food surplus redistribution - National clarification of food safety requirements may take a longer time during the preparation phase
<p>Opportunities</p> <ul style="list-style-type: none"> - Growing political and public interest can accelerate the exploitation and help additional funding - Many of the current redistribution organisations (e.g. food banks) are not or in very limited scale working in the hospitality sector, there is a big space for future growth 	<p>Threats</p> <ul style="list-style-type: none"> - Coordination is key for launching/developing activities, without an active coordinator there is much less chance of good results - Cooperation of national/local food safety authorities is key for the success, non-cooperation may result in fear and mistrust from the actors of the hospitality sector

The surplus redistribution from the hospitality sector has a very good exploitation potential because

- It is good for both donors and recipients
- The potential for very high amounts created

The main criteria of successful implementations/roll-outs are

- An active coordinator preparing and managing the redistribution network
- A good cooperation with the national/regional food safety authorities

HFA has already started exploitation planning and related dissemination activities. We are conducting two parallel activities:

1. Preparing the roll-out in Hungary
There is a working group being established in Hungary with the participation of HFA, the Hungarian Food Safety Authority and experts from the hospitality sector. We will translate the final Guidance Document into Hungarian and propose it for acceptance by the working group. Thereby hopefully the roll-out activities can soon be started.
2. Initiation of new projects in other countries
We are planning active dissemination, especially using the European Food Bank network. Where there is interest, we are offering consultation and on-site workshops in order to facilitate the launch of activities in other European countries, especially in those where the hospitality surplus redistribution does not exist yet.

Appendix 1 – Hospitality Food Surplus Redistribution Guidelines

See in a separate document

Appendix 2 – Process description used in the pilots

The most important rules about donating and receiving ready-to-eat food

The main rule: only food that conforms to food safety regulations should be used for charitable purposes

Products that can be donated and rules for consumption:

- Non-wrapped food that does not require refrigeration or heating (bread, rolls, dry biscuits, fruit and vegetables)
 - o Products to be consumed within 24 hours of receipt
- Food that requires refrigeration (cakes, buffet meals, dairy and meat dishes)
 - o To be consumed within a maximum of 3 hours of receipt, or within 24 hours if kept in a refrigerator.
- Food that needs to be kept hot, or to be reheated before consuming – if they have continuously been in the fridge or kept hot (ready-made food, soups, meat in sauce, fried meat, stews, side dishes, sauces)
 - o Dishes kept hot are to be consumed within a maximum of 3 hours of receipt
 - o Refrigerated dishes should be re-heated and consumed within 16 hours of receipt

The following items cannot be given:

- Food that does not respect the above rules for consumption.
- Food that the recipients have given back
- Food that is served by the recipients themselves (i.e. buffets, self-service salad bars)
- Tainted or possibly infected food
- Food of unknown origin
- Delivery of food with extremely delicate safety regulations (dishes made of raw meat or fish) is not recommended

For the packaging, the Food Bank provides disposable plastic boxes to the deliverers.

At the time of receipt, a Handover and Acceptance Note will be prepared.

The name and consumption instructions for the food provided should be present on the packaging or the supporting documentation.

While transporting and delivering the donations for the needy, the relevant food safety regulations should be respected; the receiving charitable organisation has to ensure the appropriate cold or hot temperature of the food (i.e. using thermo-boxes or flasks), and its protection from contamination, until it reaches the final consumers.

The recipient accepting the donations takes full responsibility for the transportation and delivery of the food from the moment of receipt.

Handover and Acceptance Note for Donated Ready-to-Eat Food

Donor: Company name (address)

Recipient: Organisation's name (address)

Location of handover and acceptance: address

Time of handover and acceptance: 2015. month day hour minute

Total accepted amount (portions):

Consumption guidelines for the donated products:

- Non-wrapped food that does not require refrigeration or heating: to be consumed within 24 hours of receipt.
- Food that requires refrigeration: to be consumed within a maximum of 3 hours of receipt, or within 24 hours if kept in a refrigerator.
- Hot food: to be consumed within a maximum of 3 hours of receipt if kept warm, or within 16 hours if refrigerated and re-heated before consuming.

The recipient declares that:

- They have received the stated number of food portions as a donation at the time mentioned above; the food's temperature is suitable and it is in an appropriate state.
- When handling the received food subsequently (in transport and delivery to those in need of it), they will respect all relevant food safety regulations and assume full responsibility.

.....
Recipient's signature

stamp

Appendix 3 – Recipient questionnaire

Dear Partner,

Food redistribution has been taking place for nearly a year with the participation of the Food Bank. This is why we are now asking for your feedback about the programme.

Thank you for your help!

What are the advantages of the programme for you?

What practical tasks/problems have you faced and how did you solve them?

Approximately what percentage of the food you receive can be given to the intended recipients?

How is your organisation's operation influenced by the receiving/delivering of cooked food?

Approximately how much time per day do you spend on tasks related to food redistribution?

Please mark the volunteers' work and the paid working hours separately!

How many of your colleagues are involved in these tasks, what are their normal jobs and what do they do in the area of food redistribution?

How is the relationship between your organisation and the recipients influenced by the delivery of cooked food?

How is the life of the recipients influenced by the donated cooked food?

Has your colleagues' motivation and attitude changed because of food redistribution? If yes, how?

What costs have you incurred from food redistribution? Please evaluate these amounts on a daily/weekly/monthly basis.

How would you improve the food redistribution programme?

Do you have any other important experience or advice that it might be worth other organisations knowing before they start accepting cooked food?

Any other comment:

Appendix 4 – Photos from pilots



Title: Systematic food donation in the food service and hospitality sector

The objective of the Feasibility Study was to connect food service and hospitality companies (hotels, restaurants, central kitchens, catering companies) that have regular food surpluses with charities ready to receive and distribute meals.

The main goal of the project was to develop a dispatcher service, creating a link between surplus and demand, and provide support in terms of knowledge, process development and monitoring.

The key output of the project is a guidance document with recommendations on implementing a cooked food redistribution programme, with guidance on planning the process, operation and distribution models, logistic process, information management, measurement/indicators of success, food safety and the legal framework, quality assurance and communication.

Name Balázs Cseh, Katalin Újhelyi, Hungarian Food Bank Association

Address 2 Lokátor u. 1172 Budapest, Hungary

Phone + 36 20 468 9593

E-mail cseh.balazs@elelmiszerbank.hu ujhelyi.katalin@elelmiszerbank.hu

Website www.eu-fusions.org www.elelmiszerbank.hu

