

D.T2.2.5:PA3, PA4, PA5, PA6:THEMATIC REPORT ON OPTIMISED FOOD WASTE PREVENTION IN RETAIL AND SIMILAR DONORS

Version 1
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1. Food Waste Prevention in Retail and similar Establishments: PA3 (BZN)

1.1. Implementation plan overview

According to the data published by FAO (Food and Agriculture Organization of UN), there is significantly much more food wasted through food chain, than it was estimated before. Although the retail sector has the less food waste along the food supply chain, but this waste amount is significant. All of retailers struggle against their food waste, because this lost gives them environmental problem, damage in their goods, and deficit in their income. The households, the retail and the catering sectors are all together responsible for 70% of the food waste in the EU and also in Hungary. Because of the strong connection of the different sectors, the retailers can do something for the food waste reduction with the households, namely the customers.

Within the STREFOWA-project the aim of the Hungarian pilot actions (PA3) is to raise and shape the knowledge of people and at the same time to reduce the amount of food waste arisen at the customers. At the beginning of the project, to achieve this aim during the regularly organized events of pilot actions, the habitants can consciously re-select their already stored food-products and can donate them at specifically assigned spots. The first aim is to expect and collect food-products that would not be used or their quality expiry deadline is close so they would become waste. The expected result of the pilot action is the saving of food from becoming waste, as well as awareness raising that would hopefully affect and change the shopping habits in the future. Only by recognizing how much products are collected from the households of participants can have a strong motivating effect and adding to that other minor food saving actions could have positive social, environmental and economic influence.

This concept was realized, but was no successful, therefore it was needed to modify. Almost all of goals had a role in the new concept - raise awareness, changing the shopping behaviour, informing the customers for the meaning of the different expiration dates, waste reduction at the shops-, but procedure - how to reach the customers - was changed. With this new concept, could have been reached positive social, environmental and economic influences.

1.2. Implementation of pilot actions

The Bay Zoltan's task of STREFOWA project is to find the best solution in the retail sector that can reduce the food waste not only at the retail sector but indirectly at the households as well. In the spring of 2018, a special pilot was organised at the INTERSPAR store in Miskolc city, Hungary. The aim of this was to raise customer's awareness about the use of FIFO (First-in-first-out) principle. This regards to the method of product's arrangement at the store: the close-term products are placed in front of the shelves and the long-term products - the expiry date on the packaging is longer - are placed at the back side of the shelves. The shelf-stacking is always done from the back side. The customers are often choosing the long-term products - by mistakenly interpreted or bad habit or safety margins - even if they are consuming them shortly after purchase. The remaining food with expired date appears as waste at the retailers. The one of the aim of this pilot is avoiding and reducing this amount of food waste. The same principle must be applied at the households - at the storage and use of the food.



The slogan of the pilot is based on this concept: “Thank you for choosing the first one!”

Another aim of the pilot is to raise awareness of the meaning “the best before date” and “use-by-date” on the product’s packaging. Experiences have shown that consumers don’t know the difference of these categories and often get confused.

The promotion’s steps were the next:

- A hostess offered products with different expiry dates to the customers for “blind” test at the STREFOWA desk, where customers didn’t know what the difference is
- After the test, the hostess asked some questions about the “blind” test, the “use-by-date” and the shopping habits
- In the same time, the other hostess gave some information about the sharing of the food waste within the food sectors by using a magnet game and possibilities to reduce food waste.

Many people attended the promotion and listened to the information about food waste reduction: at not only the hypermarkets - where the pilot were organised- but everywhere in the country by the internet news, roadshows, conferences, etc.

The promotion materials (posters, flags, wobblers, stickers) are remained in the hypermarkets and the customers can meet this idea day by day.





Figure 1: Pilot action implemented in SPAR shops

Table 1: Final SWOT analysis for PA3

PA3	positive	negative
internal	<p>Strengths</p> <ul style="list-style-type: none"> target group is the consumers people are open minded to the environmental issues SPAR is one of the biggest retail in Hungary and can reach many people many people buy in the SPAR day by day The SPAR is helpful in this action, because its own interest to the food waste reduction 	<p>Weakness</p> <ul style="list-style-type: none"> The customers - mainly the adults - can hardly change their habits the environmental saving (non-wasted food) can't be measured The measuring of the food waste reduction is difficult at the shops due to the seasonality (holidays, seasons, price reductions, etc.)
external	<p>Opportunities</p> <ul style="list-style-type: none"> this concept can be applied in other events: roadshows, meeting, etc. the involved customers can reduce their food waste at home the national offices can support the pilot the pilot can be extended in the country and also in Europe 	<p>Threats</p> <ul style="list-style-type: none"> the customers confuse this program with another product test in the shop if the pilot action stop, the customers forget the aims the shop assistants can't give information from the action



1.3. Problems and other important issues occurred during the PA implementation

Some problems occurred at the organising the pilot action. This campaign reached the planned goals: the raise awareness, the changing the shopping habits, the education, but the amount of the saved food can't be defined.

- The Hungarian project partner (BZN) couldn't follow the pilot in the planed timings due to the renovation of the hypermarket in Miskolc city. Another cause of the postponing was the holiday - i.e. Christmas - season, where the SPAR didn't offer to organise the action.
- The aim of the pilot was the food waste reduction at shops. The real reduction can't be define due to the seasonality, price reductions, holidays at the shops (for example it is impossible to show the waste reduction in April of two different year, because there is Easter in one year and there is no at the other year.)
- It would be the best if the food waste reduction can be detectable also at the customers. But this is impossible at the moment is Hungary, because there is no official food waste measuring system and therefore the inhabitants can't collect the food waste separately.
- The campaign reached thousand and thousand people in Hungary, but these people are really different places (for example: they are not in one village, where the waste amount can be measured.)

1.4. Results and target groups reached

The evaluation of the pilot is carried out together with the pilot results of last year (2018.May, Miskolc, Hungary). The goals, messages and almost all of the parts of PA were exactly the same as the events during this year (2019).

Total duration of the pilot:

- 3 periods, in two hypermarkets in two cities
- 9 weekends = 24 days = 180 working hours

66% of the participants who participated in the "blind" test were women (60%) over 40 years old. The 64,86% of the tasted products were dairy products and 35,14% were cold cuts.

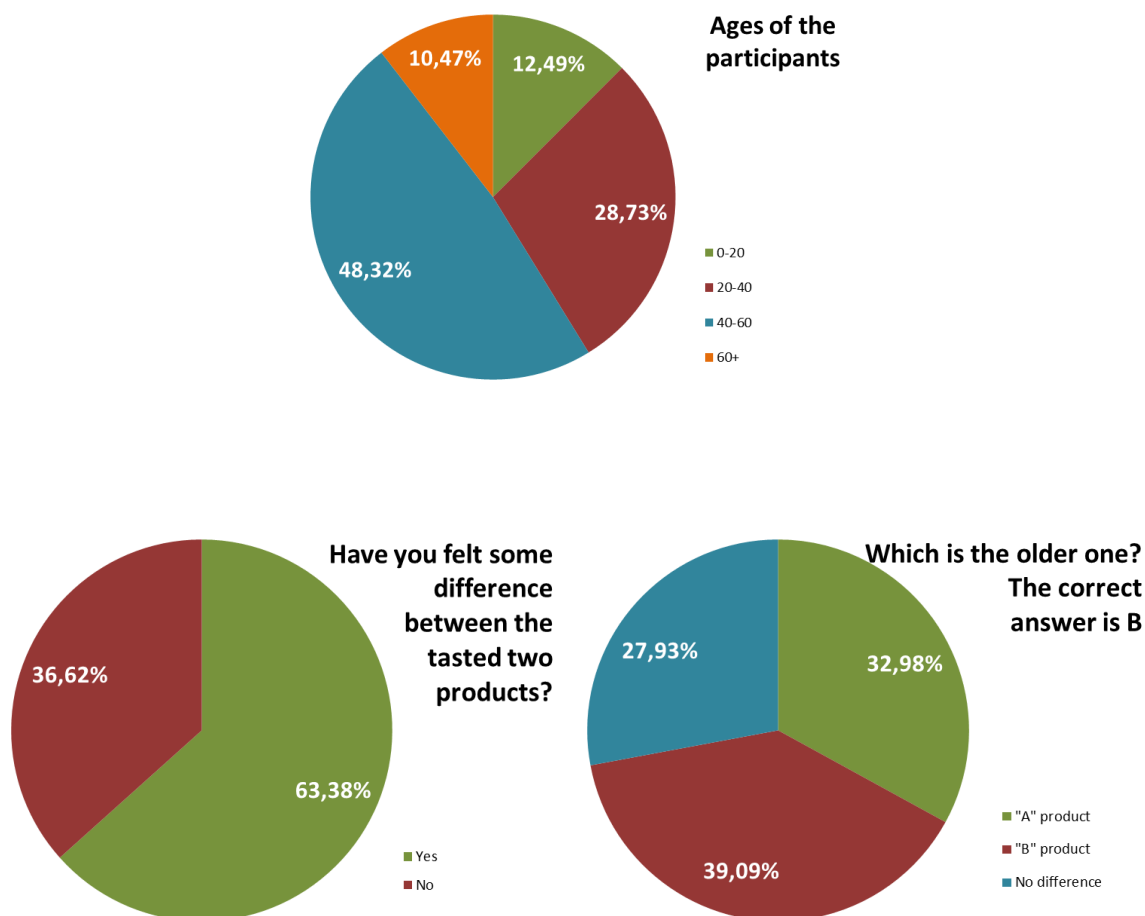


Figure 2: Data gathered during the PA3

The 63.38% of the respondents said that they felt some difference between two tasted products. There are some shifts in the results comparing the product groups. In case of the dairy products 69,11% of the participants felt some difference, while in case of the cold cuts that percentage is 45,29%. In this last group, the cold cuts were always served with fresh bread, because the taste of the old bread is really different. In case of dairy products - when the customers tasted the yoghurt with fruit jam - it gave false results, because the yoghurts could not be mixed homogeneously and equally. The feedback of the majority who tasted the normal fruit yoghurt was that the close-term yoghurt was more tasty, sweeter and creamier.

The 39,09% of the total participants correctly guessed which is the “older one” product. This was only a tip, because many people didn’t feel the difference, but they still got the answer right and those who felt the difference, they mostly guessed. Many respondents were surprised by the correct answer because they felt the “older one” product is much more delicious. The 32,98% of the respondents had a guess wrong.

There is no significant difference between the results of the three options: A product/B product is the older one/ don’t know the answer. This means that there is no significant difference of the feeling between fresh and old products. The “blind” test has proved that it is almost impossible to determine which one is older, but the taste and texture could be various - nor better nor worse.

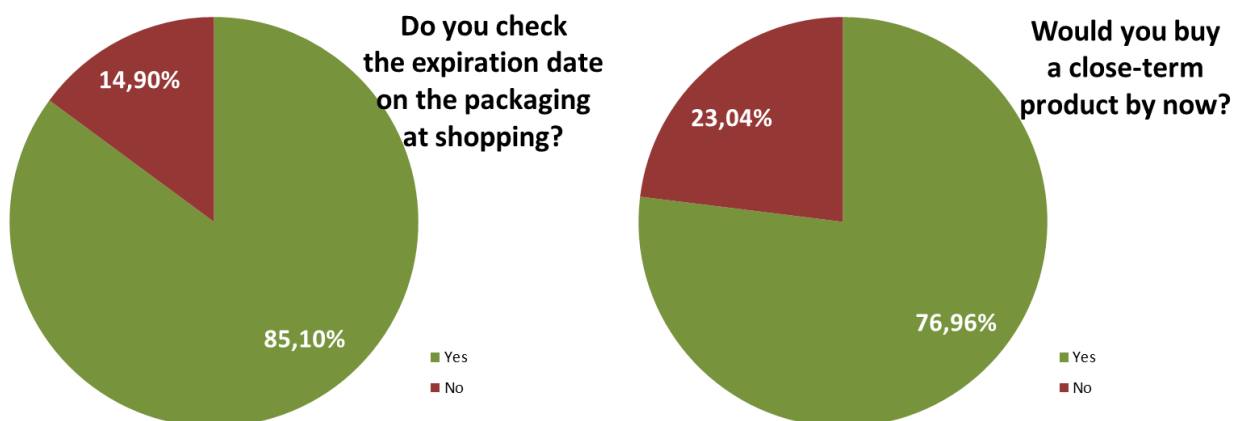


Figure 3: Data gathered during the PA3

The last two questions regards to the customer’s shopping habits. Firstly, the customers were asked if they check the expiry date on the food packaging during the shopping - if this act has influence how they choose the products. Based on these, 85,1% of the customers sad that they usually check the date on the packaging before buying. However they choose “close to expiry date” products only when price is reduced. After the tasting, the hostesses put the last question: would you buy close-term products after this test? 76,96% of the participants sad yes, they would do it.

TARGET GROUPS	QUANTIFICATION
Local public authority	-
Regional public authority	-
Interest groups including NGOs	-
Education/training centre and school	-
Large enterprises	-
SME	-
General public	3555 + thousands by internet news
<i>Pilot Action</i>	<i>Amount of waste avoided per PA</i>
PA3	can't be exactly defined



1.5. Sustainability and transferability of pilot actions on optimal solutions on Food Waste Prevention in Retail and similar Establishments

It is recommended to continue the well-structured and defined pilot. Nowadays, almost all sectors of the food supply chain are struggling to reduce their food waste. The main aim is reduction of food waste amount to a reachable minimum level. All of retailers want to do something good for the environment therefore they must be as important the food waste reduction issue as the reduction of the amount of plastic packaging - many traders has exist decision for it. The SPAR Hungary proved with this pilot action that it can do against the food wastage together with its partners: the customers. The results of the pilot have shown that opinion and habits of the population can be changed with some awareness rising, which can help and improve food waste reduction not only for the retailer sector, but also in the households. Everybody can avoid the food wastage with conscious consumption and following the FIFO principle.

This whole concept can be adapted to a national and international level. Other tasks of the project which support this idea: chatbot application for the consumers of SPAR and a short animated film, which address to people no matter how old they are and activates them.

2. Food Waste Prevention in Retail and similar Establishments: PA4 (FPFB)

2.1. Implementation plan overview

Implementation plan on Food Waste Prevention in Retail relied on developed cooperation polish Food Banks with retailers and restaurants chains on the functional urban area in Poland. Federation of Polish Food Banks is implement new food waste reduction plan for food donations that need special cooling conditions in retail sector. At the beginning of the project, the Food Banks received mainly product categories from the retail chains as fruit, vegetables and bread. FPFB wanted to provide people in need different food categories - high nutrient content (meat, fish or dairy products, that need special cooling storage and transport). Also taking into consideration, that waste animal based product has high environmental effects such as dairy products or meats.

Food Waste Prevention Plan was endeavoured to provide a wide range of food donation from retail chains, including food requiring refrigeration. On the other hand, Food Banks have trained partner organizations to receive donations of food requiring the continuity of the cold chain. Food Banks supported some of the partner organizations receiving this type of food ensuring cool boxes, partially purchased as part of the project.



2.2. Implementation of pilot actions

Table 2: Final SWOT analysis for PA4

	positive	negative
internal	<p>Strengths</p> <ul style="list-style-type: none"> the donation is the best food waste prevention method helping for the needy people FPFB have many shops in pilot action in whole Poland Showing scale of effect on the national level 	<p>Weakness</p> <ul style="list-style-type: none"> The Food Bank partner organizations are far from the collection points - shops and resign of receiving food The Food Bank partner organizations don't have adequate refrigerated transport equipment
external	<p>Opportunities</p> <ul style="list-style-type: none"> the national offices can support the pilot there is potential to increase the number of shops in pilot action applicable this pilot in another shops/abroad 	<p>Threats</p> <ul style="list-style-type: none"> The Food Bank partner organizations can't collect food donation from all the shops The cost of receiving food outweighs the cost of the food donation There are no partner organizations in the area that could receive food donations from shops

The assumption of the project was to conduct a pilot project in the functional urban area in the capital city of Poland and the only Warsaw Food Bank in this area.

Federation cooperation agreements with retail chains include all stores throughout the country. Therefore the FPFB decided to extend pilot activities and showed effects and scale of pilot activity in whole Poland and all 31 Food Banks.

2.3. Problems and other important issues occurred during the PA implementation

As part of the project, the budget for the purchase of equipment necessary to receive food in refrigeration was granted only to the Food Bank in Warsaw, which was in line with the application. In the second reporting period has approved extension of pilot action to Food Banks in Poland, which received from shops food donation in special cool condition. The other Food Banks did not receive support to buy cool boxes in the project and made a purchase on their own.

On the other hand, the BL5 budget could have been allocated for the purchase of fuel for all Food Banks that collected food donation that required a cold chain. The funds from the project budget only to a limited extent supported the transport of Food Banks. Collection of donations by Banks of Food concerns currently 840 stores and restaurants throughout the country.

During the project there was also a change in the record of food donations by Food Banks.



In the first period of the project, all food received from retail chains by one Food Bank in Warsaw was shown. In subsequent periods, after the expansion of the pilot action, it was possible to extract the collected food that needs refrigerated transport. During the 4 period in order to improve the process of book food donations, Food Banks could make donations to the food banks storage system without division into assortment categories such as: dairy products, frozen food, meat etc. The effect of this is the limited ability to demonstrate the donations of food that require cooling from all the food saved before wasting.

2.4. Results and target groups reached

TARGET GROUPS	QUANTIFICATION
Local public authority	-
Regional public authority	-
Interest groups including NGOs	-
Education/training centre and school	-
Large enterprises	8
SME	-
General public	-

<i>Pilot Action</i>	<i>Amount of waste avoided per PA</i>
PA4	3 847 243 kg

FPFB have cooperation agreement with 8 Large enterprises:

Eurocash, Jeronimo Martins, Auchan, Auchan Direct, Makro, Kaufland, Carrefour and AmRest Poland (KFC and Pizza Hut restaurants).



Table 3: Summary of pilot action effects from 01/07/2016-31/12/2019

		Period 1	Period 2	Period 3	Period 4	Period 5
		Food Bank in Warsaw	Food Banks in Poland			
	MAKRO	3	30	32	32	35
	AUCHAN/ AUCHAN DIRECT	1	34	62	76	79
	EUROCASH		3	5	4	5
	JERONIMO MARTINS			104	236	401
	KAUFLAND			12	21	60
	CARREFOUR					38
	KFC RESTURANTS	3	184	185	199	218
	PIZZA HUT RESTURANTS					1
	Number of shops:	4	67	215	369	840
	Tonnage (KG):	419 204	890 358	1 298 881	1 255 807	1 151 993
	FOOD SAVED BEFORE WASTE					
	TOTAL:					3 847 243 KG

2.5. Sustainability and transferability of pilot actions on optimal solutions on Food Waste Prevention in Retail and similar Establishments

The Federation of Polish Food Banks is the initiator of national legislative changes concerning the prevention of food waste in Poland. In 2019 years will come into force the Law specifies the principles of food seller's duties in order to prevent food waste and negative social, environmental and economic resulting from food waste. This means that all stores over 250 m will donate food for social purposes. It is estimated that 10,000 stores will be obliged to donate food for social purposes, which means that about 100,000 tons of food can be saved from waste.

Food Banks plan to further expand food sources:

- development of cooperation with new retail chains
- cooperation with distribution centres



- development of cooperation with suppliers of retail chains
- expanding cooperation with the catering sector

The Federation is a leader in the distribution of surplus food in the country with 20 years of experience. As an organization in the light of upcoming national regulations, it will disseminate the experience and effects of the activities carried out in the project.

3. Food Waste Prevention in Retail and similar Establishments: PA5 (Glopolis)

3.1. Implementation plan overview

As planned and in accord with the feasibility study food bank built a kitchen, thus implemented a pilot action 5 - Deliverable D.T2.2.4. The aim of implementation of the kitchen is to extend the vitality of food, reduce food waste and improve the processing of food (for example - preserving). The kitchen was also an adaptation to local circumstances as from 1/1/2018 higher volume of food donations from retailers. The kitchen was expected to be in fully operational as early as 2017. Due to problems with freezing temperature in winter and with the construction of building the completion of the kitchen was completely finalized at the end of 2018. At the beginning of 2019, the first community kitchen in the Czech Republic was officially opened (with NGOs and the public), followed by seminars for food bank clients to teach them how to use food and cook properly. SWOT analysis focused on kitchen efficiency is in the process and will be completed at the end of June 2019.

The main aims of the pilot actions are to:

- reduce food waste
- prolong the value and utility of food
- help people in need (the clients of the food bank)
- raise awareness about food banks

Implementation plan:

- built the kitchen
- official kitchen opening
- organizing seminars and creating a community around the food bank

3.2. Implementation of pilot actions

Due to good cooperation and communication with the director of the Food bank Prague, Věra Doušová, the kitchen is now in full operation and ready for another usage and activities. The official opening of the first communal kitchen in the Czech Republic in Food Bank Prague took place in February 2019. Famous YouTubers and bloggers prepared a menu of food that the food bank mostly gets. The aim of this event was to raise awareness amongst YouTubers, bloggers,



and journalists about the issue of food waste and about the functioning of the food bank, especially about problematic of financing of such an institution. The cooking seminars are held from January to May 2019. Clients, pupils, and the public can learn how to cook effectively, healthy and without big food waste. For example, clients of Food Bank Prague - people in need do not know a lot of food and cannot process them and therefore take less. During the seminars, all the cooking equipment acquired is used and kitchen efficiency will be described in detail in the analysis

The final SWOT analysis will include:

- how the kitchen equipment works and whether it is sufficient
- ecological overlap (waste sorting)
- taking into account the condition of the building and its impact on the functioning of the kitchen
- feasibility in other food banks

3.3. Problems and other important issues occurred during the PA implementation

The main problem was to build the kitchen and run it into the full operation in the expected period. Unforeseen delays with construction due to the process of obtaining a construction permit and later freezing temperatures in winter 2017 have led to the kitchen being late with the full operation. The kitchen was completely finalized in December 2018. This pilot action was delayed about a year.

Another problem was the inappropriately chosen type of analysis. In the beginning, it was assumed that it would be a cost-benefit analysis. After the consulting with the director of the Prague Food Bank Mrs. Doušová and analysis experts, we came to the conclusion that cost-benefit analysis is not a suitable type of analysis for our research, because the Food Bank Prague is not a commercial company and this pilot action is not investment project. The SWOT analysis was chosen as a suitable type.

3.4. Results and target groups reached

TARGET GROUPS	QUANTIFICATION
Local public authority	-
Regional public authority	-
Interest groups including NGOs	6
Education/training centre and school	1 school
Large enterprises	Tesco
SME	-
General public	food bank clients

Overall, the pilot action has helped to increase the processing capacity of the food bank. They can cook meals from the perishable goods they get, freeze them and thus be able to distribute them continuously as is needed. The official opening of the kitchen was attended by 6 non-profit organizations, Tesco Czech and bloggers, whose social media affected a large group of public. The reportage of grand opening was even in main news in Czech public service television. On this occasion, the new charitable collection for Food Bank Prague was created. Through the seminar, we managed to reach a lot of clients, whose feedback to the seminars is positive. In May of this year, there will also be a seminar for pupils where they will learn how to preserve food properly and they will have a chance to see all the food bank premises.



Figure 4: Some implemented activities during the PA5

3.5. Sustainability and transferability of pilot actions on optimal solutions on Food Waste Prevention in Retail and similar Establishments

The results, best practices, and recommendations could be transferred to other food banks within the Federation of Food Banks in the Czech Republic with 15 members. The resulting SWOT analysis will be conceived mainly in the conditions of legislation in the Czech Republic, but it will also be possible to transfer it to other states. The output of this pilot action will be downloadable on the Reduce Food Waste Tool on reducefoodwaste.eu. Any other NGO or institution can take over this know-how and continue. The SWOT analysis will include also the content of seminars and Food Bank Prague plans to continue with these kinds of activities in their community kitchen.



Figure 5: The cooking seminar

4. Food Waste Prevention in Retail and similar Establishments: PA6 (Lamoro)

4.1. Implementation plan overview

Food Donation has been a very complicated issue in Italy as only Charities and public Institutions could carry out these particular activities and with many restrictions. After the approval of the last Italian National Law concerning waste food, “*Regulation about food and pharmaceutical products donation and distribution for social helps and to limit waste*” (Law n. 166,



19/08/2016), the situation has definitely changed. The donation activities have become easier. In fact, some important elements of simplification came into force: recovery of the VAT on goods donated, explanations provided for the donation of products after the “best before”, the possibility to sell the “bread of the day before”, the introduction of a credit tax of 20% of the value of food donated for human consumption. On the other hand, the Italian National Law has introduced the requirement for distributors of food to take part in agreements with non-profit associations for the donation of unsold food and the application of administrative sanctions for those who do not stipulate this type of agreements. Below, is the description of how this issue works in the area of the Municipality of Asti. The Caritas of Asti is still in charge of different projects for disadvantaged people and one of them is the Social Supermarket that is dedicated to people with a low possibility to buy directly food in supermarkets. The Social Office of the Municipality of Asti prepares a list of disadvantaged people (with income problems) and invite them to go to the Social Supermarket. The Social Supermarket stores food donated by people, companies, little shops and it can't offer fresh food due to specific hygienic restriction. On the other hand, the job inside the Social Supermarket is guaranteed by volunteers. The donation flow is still not frequent: it depends only by the sensibility of people. It is not organised in a systematic way and it is not guaranteed every day, but only by the availability of donors. The major donor is the local bank foundation that helps the Social Supermarket with economic donations. The organisation and the storage of food is simpler and in this way losses of food are impossible.

In the same framework of the food donation, the Municipality of Asti implemented with the Local Health Authority of Asti (which includes the Hospital of Asti), a pilot project that collects uneaten food from the canteen of the hospital staff (doctors, administrative personnel...) and brings it daily to the municipal canteen for disadvantaged people.

The PA6 is based on this activity already implemented inside the Local Hospital of Asti (local Health Authority-ASL AT): the collection of food portions uneaten (uncorrupted) from the employee's canteen (doctors, administrative personnel...) of the Local Hospital of Asti to the local soup kitchen. The food portions are fresh, packed in the early morning and collected just after the closure of the canteen service. This activity is funded by a bank foundation (for the purchase of the specific food containers) and implemented by a voluntary association (for the transportation of food from the Hospital to the soup kitchen of Asti). Currently, the Local Hospital of Asti can donate 40 food portions of 400 hectograms each one to the soup kitchen for disadvantaged people. The donation activity is running but it lacks of:

- strategic communication and diffusion in order to promote sustainability and transferability of this best practice;
- systematic collection of data about food portions donated and transported to evaluate the social and economic impact;
- LCA application to evaluate the environmental impact;
- aggregation of the territorial stakeholders involved to make more synergy and promote snow ball effect;
- capacity building Public bodies involved in order to guarantee more effective interventions and longer lasting results;



- empowerment of the staff involved in order to make them more reactive in responding to the needs of the community;
- coordination among the different activities already running against the food waste;
- promotion of new activities, complementary to the existing ones;
- gain more visibility and benefit from new opportunities through taking part in the umbrella organisation of STREFOWA.

Since LAMORO has got experience and knowledge from the participation in STREFOWA project, can give its added value to valorise and improve this special practice at a higher territorial level and diffuse it in order to maximise it and promote its application in other Hospitals (or other public bodies with canteens).

LAMORO has established a working table with different stakeholders (Municipality of Asti, Chamber of Commerce, Public Administrations in general, local Food Bank unit, University of Asti, voluntary associations, schools...) in order to share info about the existing activity: the main problem highlighted is the lack of information about this best practice. The Hospital of Asti did not carry out any type of dissemination and this could create confusion and duplication of already existing best practices. The role of LAMORO, as a development agency, is to facilitate the interlocution within different actors that are contributing to the same goal but they don't know anything about other initiatives. In fact, on the territory of Asti there are other already running initiatives to promote the food waste fight but they are not coordinated and "leopard spot" diffused. LAMORO is acting as a territorial facilitator and aggregator in order to coordinate and valorised the actions already existent on the same territory.

4.2. Implementation of pilot actions

LAMORO coordinates this kind of experience (what is running well and what is not running well/SWOT analysis/risk assessment...): technical methods how to store food, technical equipment needed, social cooperative roles, charities involvement, data collection system on food not wasted, law framework. It is important to remind that the support of the social cooperatives is fundamental in this chain: first they collect food, then they distribute it and manage the flow. At the territorial level, the voluntary organisations are very important for this kind of donation because they are rooted on the territory and can give a good added value. The role of LAMORO is to support them in enhancing their job.

Below are the key points of the SWOT analysis:

STRENGTHS. It is important both from an environmental and ethical point of view. It is a bottom-up initiative, assisted by the local Health Authority (ASL AT). It helps to cover the needs of the municipal canteen for disadvantaged people. It allows not to waste food: lunch packs are fresh, packed in the early morning and collected just after the closure of the canteen service. A specific transport method is used by applying the cold chain: transport is inside the city (within a radius of 5 km). Enhancement of the local voluntary organisations. Enhancement of the culture of non-waste and the circular economy.

WEAKNESSES. The cold chain has to be respected and guaranteed. Presence of administrative constraints and difficulties that raise obstacles in current activities.



OPPORTUNITIES. It is a best practice (a good practice capable of generating a real multiplier effect). It could be shared and promoted at regional level within the regional network of the local Health Authorities in order to generate a snow ball effect. Good opportunities to promote dialogue between local public administrations in order to develop and plan other good practices to contain food waste.

THREATS. Presence of administrative constraints raising obstacles in the current activities. Lack of dialogue between public administration among the same territorial area. Lack of private investors. Lack of public funding.

From July 2017 to June 2019 the activities were as follows:

- LAMORO worked with the Hospital of Asti and the Municipality of Asti in order to collect the information and data about the food donation from the Hospital to the Municipal canteen.
- Start of activities with the Hospital and the Municipality of Asti about the promotion of the actions at regional level and implementation of a feasibility plan to replicate the good practice still existing within the Hospital of Asti.
- Collection of daily data about food donation from the employee's canteen of the Hospital of Asti to the municipal canteen.
- Awareness raising activities within the hospital kitchen: how to involve the hospital kitchen in order to be more sustainable and aware of the importance of donation.
- SWOT analysis.
- Round table meetings at regional level: how to replicate the best practice in other hospitals? Meetings in July, August, September, October and December 2017.
- Regional protocol for the implementation of PA6 in other hospitals: collection of info about local stakeholders and finding social cooperatives for the local activities.
- Collection data of daily food waste in regional hospitals in order to identify other potential implementing PA and boost the donation.
- May-June 2018: 1st round table with the Regional Authority and Local Health Authorities
- September-October 2018: 2nd round table with the Regional Authority and Local Health Authorities
- November 2018-Spring 2019: monitoring of the potential activities implemented by other Local Health Authorities.
- 3rd of May 2019: LAMORO met the Local Health Authorities to discuss about how the implementation of the project was going and to which results had carried out and what legacy could it leave in view of closure.
- 7th of June 2019: closing event of the project where Local Health Authority, Social Cooperatives and associations representants and other local Stakeholders as the University of Asti, the Local School authority, the Municipality of Asti have attended; it was also an important opportunity of dialogue and discussion about how to carry on the important legacy left by the project.



Figure 6: Stakeholders involved in the local network (STREFOWA, Final Workshop in Asti, 7/6/2019)

4.3. Problems and other important issues occurred during the PA implementation

The main problem has been the difficulty in the involvement of all actors along the chain of the food donation. The voluntary Organisations are involved in the food donation flow through an administrative (and formal) protocol where each step is individuated, managed and described in order to identify each step of the chain and each role. In this way it is possible to limit problems.

4.4. Results and target groups reached

TARGET GROUPS	QUANTIFICATION
Local public authority	2
Regional public authority	1
Interest groups including NGOs	3
Education/training centre and school	2
Large enterprises	-
SME	-
General public	-

<i>Pilot Action</i>	<i>Amount of waste avoided per PA</i>
PA6	214 kg/month



4.5. Sustainability and transferability of pilot actions on optimal solutions on Food Waste Prevention in Retail and similar Establishments

PA6's sustainability is given thanks to the previous implementation of the Local Hospital of Asti (Local Health Authority-ASL AT). In fact, a memorandum between the Territorial Health Department, some local Social cooperatives and the Municipality of Asti is in force and thanks to it the collection of lunch-packs uneaten from the employee's canteen of the Local Hospital of Asti has been until now possible. This activity is also ensured by funds provided by a bank foundation (for the purchase of the specific food containers) and implemented by a voluntary association (for the transportation of food from the Hospital to the soup kitchen of Asti).

One of the measures taken by LAMORO to guarantee a more efficient dialogue between the different stakeholders involved was to establish a permanent round table (meetings in June, July, August and September 2017, February 2018) with regional actors dealing with Health infrastructures, local representatives of hospitals (on the regional territory) and LAMORO consortium (Municipalities, Chambers of Commerce and Public Administration in general).

On October 2018 a working table event has taken place with the representatives of Regional Authority (Health and the Consumer protection that is in charge of the regional law about food waste) and the local hospitals of the Piedmont Region. On the basis of the Hospital of Asti experience (SWOT analysis) LAMORO implemented the protocol/check list (technical methods how to store food, technical equipment needed, social cooperative roles, charities involvement, data collection system on food not wasted, law framework) to provide a useful tool to regional round table. The Regional Authority has given its sponsorship (Board of Health, Board of Consumers protection)

The local political election and the follow change of local government didn't allow to transfer this virtuous model to other regional institutions/organizations (Local Health Department, Hospital etc...), even though the Regional Institutions showed their interest to replicate the best practice of ASL of Asti to others Hospitals in Piedmont Region.

The Local Health Department of Asti takes on the transferability of the best practice, disseminating the project around over other Local Health Department based in different areas of Piedmont Region and willing to replicate the Asti model.