



Europe Fights Food Waste through Effective Consumer Training

Erasmus + KA2 – Adult Education
2015-1-PL01-KA204-016599



Final Report on Needs Analysis

Author: Silvia Farina – Eurocrea Merchant

Date: 04/04/2016 – 1st Version



This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Table of Contents

I - Introduction.....	3
II - Sample of respondents	4
Questions about Households behaviour	5
Questions about awareness of food production processes.....	9
Questions attitudes and perceptions about the value of food resources	10
Questions about interest in being engaged and take action	12
Conclusions.....	16



I - Introduction

The aim of the EFFECT project questionnaire is to understand people's consuming habits and attitudes towards the value of food, take into account their perception about the food resources and their awareness of food production process, and also investigate their interests on reducing food waste. In addition, the survey gave the opportunity to the participants to learn about the goals of the project and stimulate their curiosity for future engagement.

The survey was carried out from the end of January to the end of February 2016 in Poland, Greece, Italy, United Kingdom and Spain and a total of 4572 people participated.

Methods to inform and involve respondents were various:

- The survey was sent to different reliable NGO and public administrations asking them to upload the link in their own webpage;
- To reach people in need to answer, the partners asked charities active in food waste recollection and redistribution to pass the survey to beneficiaries when they come to have lunch or to pick up the food donation pack. These surveys were filled up on paper format with the help of technicians and volunteers who helped on the translation and explanation of



some concepts to the respondents. The responses have later been copied in the online survey tool;

- The Survey was distributed using social media networks and emails by the partners to their contacts
- Several Facebook groups and pages interested in topics related to food waste reduction and sustainability in general, have been contacted and asked to share the link to the survey among their contacts, members, associates and volunteers;
- The survey has been promoted in the partners' websites and newsletters.

The survey was anonymous and nationwide addressed to the general public. The present survey has not the presumption to be a scientific research or to have involved a sample, which represent the European citizens nor the population of the countries involved. In fact, the survey is meant to collect data about people's attitude towards food waste, being the promoters aware that the results may be biased by some factors:

- Some of the people involved are already sensitized about the issue, hence they may be more aware of the problem and be interested in knowing more;
- Some respondents may be already supporters of food waste reduction initiatives;
- The number of respondents in the various countries vary considerably, going from a minimum of 218 in the UK and a maximum of 3004 in Poland.

Besides this, the survey is considered, to be anyway an interesting starting point for the EFFECT project and for the development of educational materials and interactive tools, as highlighted in the conclusions.

Moreover, the survey also aimed at raising awareness about the EFFECT project and the upcoming results, in order to engage an initial group of interested people.

Finally yet importantly, the fact of having involved already interested and sensitized people in the survey, is considered an added value for the project, because the partners' experience and the present investigation demonstrate that who is informed about the food waste issue is usually willing to learn more and take action within the local community, friends, relatives and neighbours. In this respect, the project intends to engage closely this type of people with the aim to let them act as multipliers.

II - Sample of respondents

All partners were supposed to collect at least 200 questionnaire per country. The threshold has been surpassed and the respondents per country are the following:

- Poland: 3004
- Greece: 235
- Italy: 254
- Spain: 454
- United Kingdom: 218

In total 4572 citizens participated: 78% are female respondents, 7,5% male, while more than 14% skipped the question.

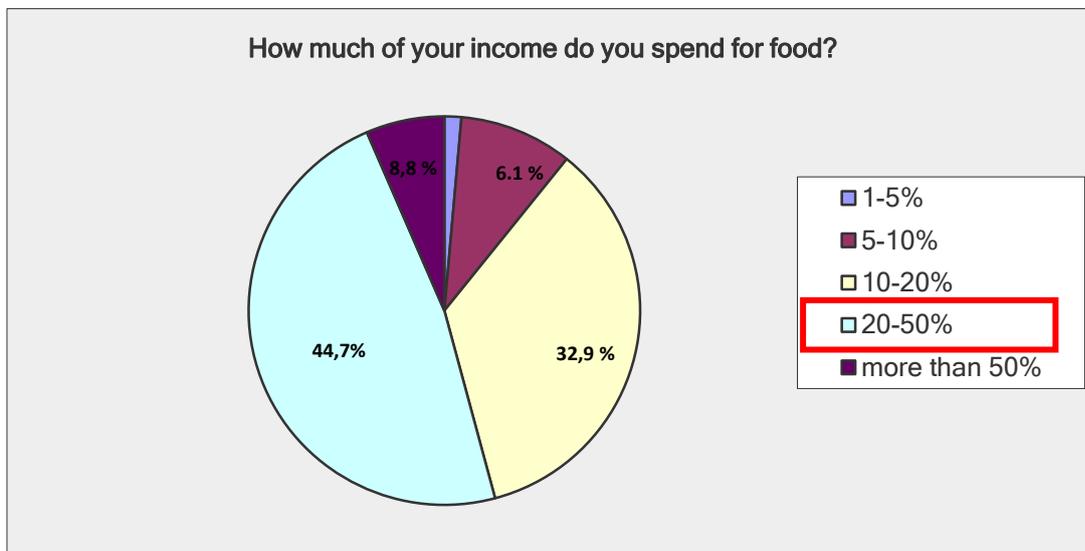


As for the age range, the majority of respondents are aged 26 to 35 (38%), followed by 18-25 (28%) and 36-55 (16%).

The large majority of respondents live in a city, while only 14% live in the countryside. More than a half are not involved in any education programme.

Though only 5% of the participants answered yes to having experienced food shortage in the past 5 years, a further 641/4572, equivalent to a 14.2%, of participants, skipped the question. As many questionnaires have been collected during food distribution occasions, this figure may sound inconsistent. However, given the stigma surrounding food insecurity, it is likely that many participants would not be open to answering this question honestly.

This seems to be confirmed by the percentage of respondents that spend between 20 and 50% of their total income for food: 44,7% equivalent to 2045 people, while 8,8 spends more than 50%.



According to a recent study from Washington State University, the average percentage of household income spent on food in project countries is: 13,4% in Spain, 14,2% in Italy, 9% in the UK, 14,2% in Greece and 20,4% in Poland.

Questions about Households behaviour

Question 1: Would you eat ripe fruit, such as banana with brown spots?

Almost 87% respondents are willing to eat a fruit with brown spots. 3,5% of responders emphasize that the answer depends on how the process of ripe is developed. Also if they could make cakes or cocktails or if there is no other choice in the shop or home.

Question 2: Would you eat food normally considered unconventional?

Majority of responders (69%) would not eat any of the “uncongenial” food listed: salmons cheeks (selected by 6%), pigs ear (7%) or fish tail (12%). Many respondents pointed out they are vegetarian and the listed examples do not apply, but they would be willing to eat of vegetables/fruit usually discarded. Some declared they would not eat any of the above, but are ok with other unconventional food with the aim to reduce waste.



Comparative insights

It is worth pointing out that results at country level were quite different: in Poland the percentage of respondents which would not eat any of the listed types of food is the highest (80%), while in Spain it is 26%, in the UK 40%, in Italy 46% and in Greece 56%. This may depend on the fact that salmon's cheeks, pigs' ear or fishtail are not common in the Polish traditional cuisine. What people are more willing to eat, that is closer to Polish eating habits is: whole apple with a stump, meat offal (stomachs, lungs, heart, pig and chicken legs, guts). According to the local traditional cuisine, Italians and Greek are more likely than others to eat unconventional parts of a fish (tail or cheek), while one out of four Spanish would eat pigs' ear.

Question 3: Would you pay the same price for fresh-looking and ripe or different shaped fruits/vegetables?

Around 45% would pay the same price, but most of the respondents wouldn't pay the same price or declare they don't know (respectively 23,4% and 23,5%). Those who are not willing to pay the same price give arguments such as: I want to eat perfect looking products; ripe or ugly shaped fruit should cost less; because they are spoiled faster; because I am not sure it is GMO or not, because I have less time to eat it.

Comparative insights

It is interesting to notice that respondents inclined to pay the same price vary a lot in the different countries: in the UK 76%, in Italy 54%, in Spain more than 50%. In Poland (43%) and in Greece (24%), people are less inclined to pay the same price. From the comments, it is possible to understand that most of the people that would pay less think that quality fruits and vegetables should also look good, demonstrating that aesthetic standards matters a lot when purchasing food.

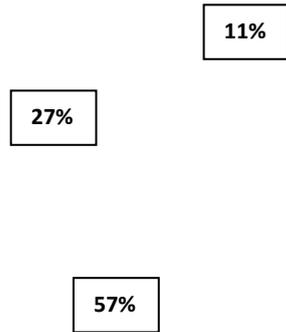
Another reason for wanting to pay less is that ripe fruits and vegetables last less and need to be eaten fast. Moreover, some respondents in all countries are afraid that strange looking fruits/vegetables may be GMO, while in reality strange shapes and appearance are quite normal in the nature: consumers are not familiar with it because they are used to see standard aesthetics in markets and supermarkets.

Last but not least, it is possible to assume that most of respondents involved in the UK are already familiar and sensitized towards the food waste issue, being followers and supporters of Global Feedback.

Question 4: You have 1 pack of milk in your shopping list, but at the supermarket you find an offer of 3 packs of milk for the price of 2. What would you do?

Most of respondents would buy only the packs they are able to consume before the expiration date. Only 3% would be persuaded by the offer, so to buy more than needed just because it is convenient.





Question 5: Your grandmother organizes a big lunch for your grandpa 80th anniversary. There are lots of dishes in such an amount that at the end of the day there are lots of leftovers. What would you do? Mark all that apply:

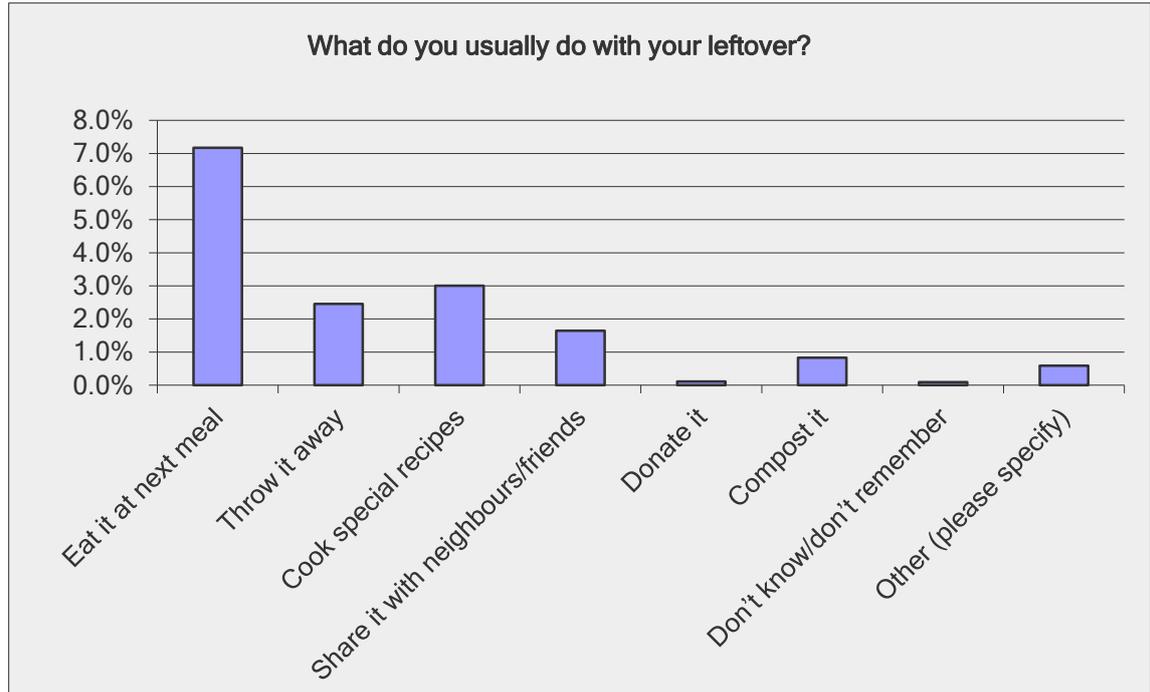
Answer Options	Response Percent	Response Count
Ask grandma to put food in leftovers boxes for later	64%	2935
I would take some of the food and make new and different meals out of it	24%	1097
I would try to eat it all in the next few days with my grandma	35%	1583
None of the above	4,6%	211
<i>answered question</i>		4547
<i>skipped question</i>		25

It is to be taken into account that only 24% would cook new meals out of leftovers, probably because they don't know recipes to recovery it.

Question 6: What do you usually do with your leftover?

The large majority of respondents (71%) eat leftover at next meal, 30% cook special meal out of it, while 24% would throw it away. Only 8% do compost with leftover and only 1,1% donates it.

Some respondent ticked the "Other" option and specifies he/she put leftover in the freezer and then eat it later.



Comparative insights

There are some interesting differences among countries:

- In Poland 30% of respondents declare to throw away leftovers, which make the average higher. In the other countries this percentage is lower: Greece 14%, Italy 10%, Spain 7% and UK 5%;
- Only 8% of Greek respondents selected the option “Cook Special recipes”, while in the other countries this percentage is equal or higher than 30%;
- People donating their leftover are more numerous in Greece (6%) and the UK (5%), while in Poland only 0,2% selected this option;
- People doing compost out of leftover are more likely in the UK, where the percentage of respondents selecting that option is almost 18%.

Question 7: Do you ever eat food which has passed its best before date?

The very large majority of respondents admit to eat products out of best before date: 2111, equivalent to 46% said yes, while a further 31% made also an example, for a total of about 77% not taking too much care of best before date. The products mostly eaten after the best before date has passed are: dairy products (yogurt, milk, cheese), but also jam, pasta, rice, flour, bread, sauce, vegetables and many others.

Many of them declare they first smell, taste or check the appearance before eating it. Many respondents think best before dates are more for security reasons.

Comparative insights

It is worth pointing out that English people seem to generally consider the best before date as an indicative date that must be there for security reasons, while Greek people do respect the date more than others. In fact, about 95 of UK respondents declared to eat food which has passed the best before date (57% even make examples). Only 20% of Greek respondents, on the contrary, said yes to the question and 28% provided examples. Results from Italy, Poland and Spain are in line with the average.



Questions about awareness of food production processes

Question 8: Do you know which of the following is a Coffee plant?

More than 90% was able to recognize a coffee plant from a picture. The other option was a picture of berries

Question 9: Do you know where peanuts come from?

Only 37% respondents know the right answer: that peanuts grow up under the ground. However, in the contrary 28% declared they do not know.

Answer Options	Response Percent	Response Count
A big tree	10,5%	479
A palm tree	4,7%	216
A short bush	14,9%	680
It grows up under the ground	37,6%	1720
I don't know	28,0%	1281

Question 10: Do you know how a potato field looks like?

The large majority (73%) know how potato field looks like. The other options available were tomato, wheat and broccoli.

Comparative insights

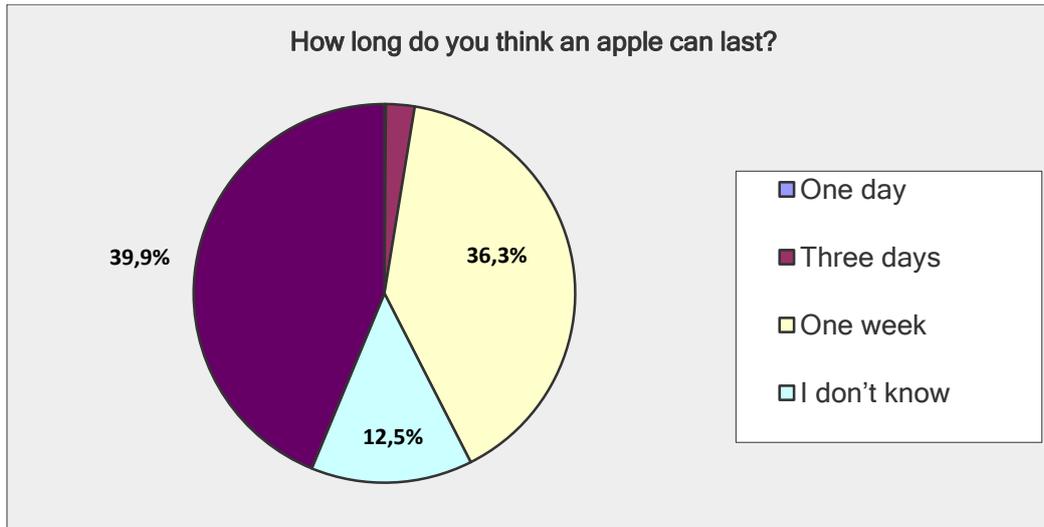
Polish people seem to be able to recognise a potato field better than other, as 82% did select the correct answer. Between 25% and 31% of respondents from Greece, Italy and Spain they confused a tomato field with a potato field.

Question 11: What is the right season for tomatoes?

77% knows the correct answer: the right season is summer. It is curious anyway that 7% responded spring, 5% autumn and 3% think tomatoes' season is the whole year.



Question 12: How long do you think an apple can last?



Most of respondents chose the option 3 days (40%), while a bit more than one third chose one week. Actually an apple may last between 2 to 4 weeks in the pantry and up to two months in the fridge, as some pointed out in the comments.

Among the reasons of people selecting the option “It depends on” there is: how it is stored: how fresh it is when you buy it; the variety of apple.

Comparative insights

There are not big differences among the involved countries.

Questions attitudes and perceptions about the value of food resources

Question 13: What food do you think is wasted the most worldwide?

Answer Options	Response Percent	Response Count
Bread	42,6%	1947
Vegetable	13,8%	629
Fruits	15,0%	684
Meat	5,6%	258
Dairy products	8,3%	379
Don't know	8,2%	377
Other	0,8%	35
<i>answered question</i>		4309
<i>skipped question</i>		263

According to FAO, fruits and vegetables have the highest wastage rates of any food, about 45%, while meat is waste about 20% (Source: FAO <http://www.fao.org/save-food/resources/keyfindings/en/>).



However, 42% of respondents feel bread is the most wasted. This is relevant in terms of wrong perception; because on the contrary bread is a food that can be easily re-used and transformed (e.g. bread crumbs, cakes, pies, etc) although it goes wastes quite often in households. Also relevant for the analysis of results is that almost 6% skipped the question.

Comparative insights

Interesting differences among participating countries:

- In Poland more than 53% thinks bread is the most wasted;
- Between 25% and 30% respondents from Spain and UK selected vegetables;
- Spanish and Italians seem to be more aware of how often fruits go wasted (almost 30% selected fruits), while Polish respondents underestimate the wastage of both fruits and vegetables
- Greek respondents selected meat (17%) and dairy (15%) more than others.

Question 14: Why do you think this is? (referring to Q13)

- Perishability of some food
- Food expired
- Bought too much.
- Unattractive appearance
- Stale
- Uneaten food
- Given the very large portions
- Uneaten due to a change of plans (ie. eating out instead of the planned meal at home)
- Tasteless
- Broken (e.g. mould, stale, etc.).
- Badly peeled
- Incorrect preparation of the meal (scorch, overcooking)
- No idea on the use of food remains.
- Preparing for large quantities

Question 15: Where do you think food waste occurs mostly?

Answer Options	Response Percent	Response Count
Production	4,7%	213
Harvesting	2,6%	120
Distribution	3,9%	180
Wholesale	10,4%	474
Retail	15,0%	687
Households	48,9%	2234
I don't know	4,2%	192
	<i>answered question</i>	4100
	<i>skipped questions</i>	254



According to FAO, in developing countries 40% of losses occur at post-harvest and processing levels while in industrialized countries more than 40% of losses happen at retail and consumer levels. At retail level, large quantities of food are wasted due to quality standards that over-emphasize appearance. (Source: FAO <http://www.fao.org/save-food/resources/keyfindings/en/>). Respondents, then, seem to underestimate the waste that occurs in retail, but they are aware of the problem at consumer level.

Comparative insights

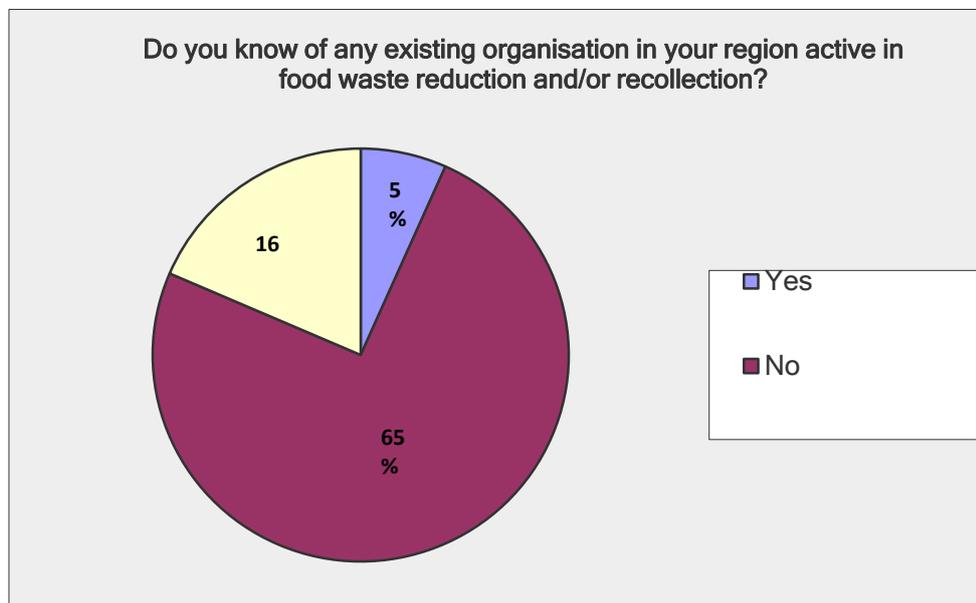
There are some interesting differences among countries:

- In the UK, respondents think that a big quantity of waste occurs Harvesting (15%) and Retail (26%), while only 22% selected the option households;
- Spanish respondents tend to overestimate the waste that occurs at wholesale level (23% in the Catalan survey, 30% in the Spanish one);
- Italian respondents selected the option Distribution more often than the others (20%);
- Greek and Polish participants tend to consider the households sector as the major responsible for food waste: the option was selected respectively by 50% and 60%.

Questions about interest in being engaged and take action

Question 17: Do you know of any existing organisation in your region active in food waste reduction and/or recollection?

More than 65% of responders do not know any organisation. Among the people that do know such organisations, many mentioned Food Banks; some mentioned Feedback, WRAP, Fareshare (UK), Caritas (Italy and Spain) and many other local/national organisations.



Comparative insights

English respondents seem to be more aware of organisations active in food waste reduction/recollection/redistribution, as only 37% declared not to know any, comparing to the average two thirds. The less informed about existing organisations are the Greeks (85%), Polish (81%), Spanish respondents of the survey in Catalan (65%) and Italians (64%).



These differences may depend on several factors, among which the fact that the people involved in Greece, Spain and Italy are less likely to be in touch with charities working to reduce food waste, while half of respondents from the UK may be most probably followers or supporters of Global Feedback. As for Poland, it is of relevance the figure of 81%, equivalent to more than 2425 people.

Question 18: Do you know where wasted food ends up in your local area?

Many of responders are not aware what happening to food waste after they throw it away.

Answer Options	Response Percent	Response Count
Landfill	28,7%	1313
Composting	20,1%	918
Incinerator plant	9,2%	422
Biogas plant	3,1%	144
I don't know	36,25	1657
I don't care	1,5%	67
<i>answered question</i>		4020
<i>skipped question</i>		552

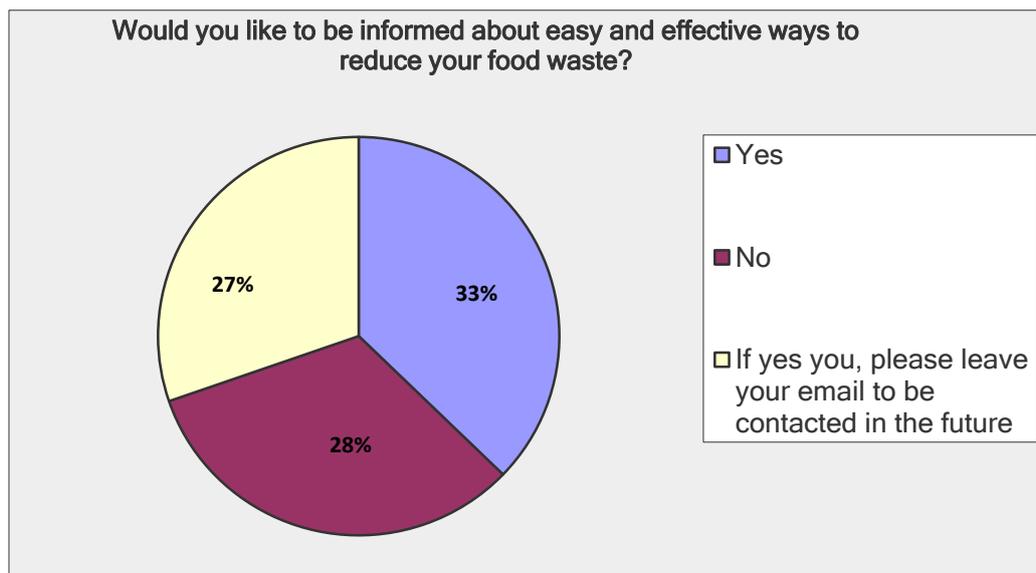
Information about the negative consequences of food waste in terms of pollution and production of general waste may be needed.

Comparative insights

It is quite interesting to point out that almost 90% of Greek respondents do not know where waste goes, while in other countries the percentage is around 40%.

Question 19: Would you like to be informed about easy and effective ways to reduce your food waste?

About 60% of responders want to stay in contact and 27% gave their individual contact address.



Comparative insights

The percentage of people not interested in being informed is higher in the UK (39%) and Poland (35%), while it is very low in Italy (16%).



Question 20: Which of the following initiatives to reduce food waste would you support?

Answer Options	Response Percent	Response Count
Donating food	33,6%	1534
Volunteering with charities recollecting and distributing food	18,4%	840
Campaign to change law	15,3%	700
Campaign to change the practices of big businesses	19,0%	868
Campaign to change people’s behaviour	37,9%	1734
None of the above	18,0%	825
Other (please specify)	1,5%	70
<i>answered question</i>		3944
<i>skipped question</i>		628

Most of respondents is willing to support initiatives of food donation (33,6%). In addition, almost 40% would support campaigns to change people’s behaviour, confirming the awareness about the impact of consumers on food waste; 19% would also support campaigns to change the practices of big business.

Question 21: What would you do to reduce your personal food waste?

The most common habits, that help to reduce food waste are: planning meals (61%), shopping list (55%), smart recipes with left-over (52%), portions sizes (42%).





Question 22: What is, in your opinion, the best way to learn more about how to reduce food waste?

Answers to Q22 are encouraging for EFFECT project promoters, as the favourite ways to learn more about food waste reduction are campaigns (39%), Recipes (38%) and informative materials (35%). In addition, interactive platform and short videos are selected respectively by 22% and 24%. Being the project focused on the development of an interactive platform hosting short guides, recipes, video and games, with the overall aim of launching a European campaign, EFFECT seem to have focused on the most relevant ways to inform and sensitize people.

Answer Options	Response Percent	Response Count
Cooking lessons	19,8%	905
Short videos	24,3%	1113
Educational game	12,3%	563
Short guides/informative materials	35,5%	1625
Recipes	37,6%	1720
Campaigns	39,3%	1798
Volunteering to recollect food	13,9%	635
Interactive platform	22,1%	1010
Other (please specify)	3,4%	157
	<i>answered question</i>	3937
	<i>skipped question</i>	635

Among the other ways suggested by respondents ticking the option “Other”, there is: “Requires multi disciplined approach. Education at school level up to influence kids and parents, campaigning at government level to change policies”; “Reconnecting people with their food - getting them out there and understanding how food systems work”; “I think seeing the amount wasted with your own eyes would be effective”; “ To start educating people when they are very young, start at school”; “To include food education at school”; “Campaigns at local level, in the local community and the neighbourhoods”.

Comparative insights

As it was possible to select more than one option, it is difficult to make a clear comparative analysis, however some summative insights may be described as follows:

- English respondents are interested in almost all options, as their response percent are higher than the others: 43% for cooking lessons, 24% for game, 52% for short guides, 47% for recipes and 57% for campaign;
- Italians expressed a lower preference for short guide in respect to others, but still quite high (27%);
- Campaigns are the favourite ways for Italians (68%), UK (57%) and Spain (54%), while Polish respondents are less in favour of campaigns (27%).



Conclusions

The results of the transnational survey offer some interesting insights for the EFFECT. In particular, the consortium should take into account the results when planning and designing the training materials, the educational game and the platform.

The most relevant conclusions are:

- It is possible to assume that people participating in the survey have already some interest in the topic and are responsible for food management in the households. The fact that the large majority of respondents are women confirm this: women are usually responsible for shopping and cooking in families and they may be somehow aware of the waste produced at home. However, men and boys are consumers as women are, therefore there is a need to assure awareness raising among male citizens, in order to assure a significant impact.
- It is possible to say that even among people already sensitized about food waste, still the market rules based on a high aesthetic standard for food are influencing purchasing habits. There is a tendency to think that ugly or odd-shaped fruits and vegetables are of a bad quality. The consortium should work on rising awareness of this.
- As for the type of food most waste worldwide, most respondents think that it is bread. Therefore it is important to inform citizens about the other types of food that are wasted more (fruits, vegetables, cereals, meat) giving them practical suggestions about how to make smart shopping, how to store, cook and consume them. This should be in line with the data collected, as most of respondents usually eat leftover at next meal or cook special meals out of it. A particular attention should be given to Polish citizens, as 30% declare to throw away leftover, hence special recipes and information about storage and re-use may be relevant.
- Also worth of attention is the fact that only 1% of respondents donates leftover and two thirds do not know any organisation active in food waste reduction/redistribution. It may be of use to inform people about existing initiatives and how to support/participate.
- It is interesting to see that most of respondents tend to underestimate the waste occurring in the retail sector, but it is positive that the large majority is aware of the problem in the households sector, which is the target sector of the project. However, citizens should be more aware of where their waste goes when thrown away, as more than one third have no idea (90% in Greece).
- Another positive result is the general interest in willing to know more about food waste reduction and the ways and tools favourite by respondents, which are consistent with the main result of the project: an interactive platform, hosting short guides and info materials, an educational game, videos and recipes.
- The learning objectives should take into account the need to make people aware and able to better plan meals, make effective shopping lists, cook special meals with leftover and make portions sizes assuring less waste.