

Foodsaving for Sustainable Development: Local Implications of Global Problems

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Abstract

Abstract Purpose and Originality: Food security is becoming an increasingly important issue to governments, world organizations, as well as businesses, non-profit organizations and ordinary citizens. Until recently, it was thought that highly developed countries had not been affected by this problem. However, in the light of the recent economic and financial crisis, this perception has started to change. Food deficiency concerns virtually the whole world. What makes matters worse is the intriguing dichotomy between the fact that millions of people suffer from insufficient access to good quality food and that, on the other hand, every day tons of food is thrown away. Can this problem be solved? How can a local initiative help to solve it? In this article I am going to present some examples of best European practices in the recovery of surplus food, which could bring more sustainable development in the world.

Method: The author of the article has been a member of The Foodsaving Project, which researched the best practices concerning salvaging of food surpluses in four different European countries. The project involved both some theoretical assumptions, as well as research results developed in the course of running the project, such as the analysis of various documents, texts, interviews and observations.

Results: The result of the research is the presentation of the best European practices concerning salvaging food surpluses, especially in Poland.

Society: The presentation of the best practices directly influence the social responsibility, the perception of the problem as well as the domestic and international legal regulations connected to it. It also shows that social responsibility can affect everyday life.

Limitations/further research: The research had a local scope, and the range of the best practices presented is, therefore, limited. There remains a number of unexplored solutions, which can possibly further influence the social responsibility and the environment in this respect.

Keywords: food, food recovery, non-profit organization, global problems, local implications, sustainable development, environment, society.

1 Introduction

Despite the seemingly universal availability of food, the phenomenon of hunger still exist in the world. The food is still being frittered and wasted in each of the production stages - starting from agro production up to final consumers. In developed countries huge mass of food is being wasted at the consumption stage. That means that it is being thrown out, even if it is still fresh and edible for people. In developing countries the situation appears differently - food is being frittered mostly at the end of delivery stage - from farmers to the producers.

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Much less of the products are being wasted in the consumption stage. The wastage in both situations is so significant that during the last several years it became a center of international political and academic debate¹ in the field of food security and resulting from it the food saving. Until now highly developed countries thought, that they do not have to be aware of the food threat (at least, when referring to the majority of the population). However, the economic and financial crisis, which started in 2007 and had its peak in the years 2008-2009 after the fall of the largest US banks. changed this perception, making food poverty a problem not only for underdeveloped and mid-developed countries (Taghreed, de Savigny, 2012), but also for those highly developed. (IFRC, 2013)

Meanwhile in rich countries, the public and the rights creators attention has been aroused by a kind of antithesis: the number of people suffering from hunger is constantly growing, while huge amount of food is being wasted everyday.² It is estimated that in the European Union itself about 88 million tons of food is being frittered yearly, so the average amount per person is 173 kilograms. (European Parliament, 2016)

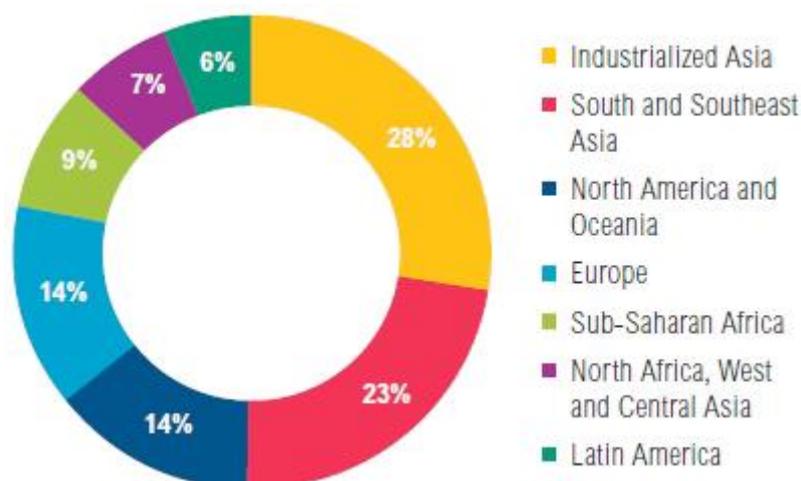


Figure 1. Share of global food loss and waste, (100 % = 1.5 quadrillion kcal)
Data source: Reducing food loss and waste, World Resources Institute, 2013.

About 4 billion metric tons of food is being produced in the world every year, but unfortunately because of using inappropriate ways of harvesting, storage, transportation, distribution and finally the consumption - about 30-50% (i.e. 1,2-2 billion tons) of the resources is being wasted (Fox, 2013). At the same time there are nearly 1 billion of malnourished people in the world. According to many experts, access to healthy and sufficient food in the future will be even harder for poor people. The main reason for that is food prices volatility, restricted food availability, interdependence between commodity markets and the impact of climate change on food production systems. In their opinion, in

¹ e.g. Bittes, Ferrari Filho, Camargo Conceição (2009), Duffy (2002). Engler-Stringer, Harder,(2007). Peers, (2009), Lang, Barling (2012), Riches, (2002).

² e.g. BCFN (2012), EC (2014) FAO (2011), Garrone, Melacini, Perego, (2014), Parfitt, Barthel, Macnaughton, (2010), Schneider, (2012).

2050 it will be a great challenge for the mankind to feed 9,6 billions of people and it will require a thoughtful, multi-faceted global strategy (FAO, 2013). Intensificating the food production is one of many solutions to meet this challenge, but in many cases it is not the best one. It causes an increasing greenhouse gas emissions, which is being regulated by European Union (it is forcing Member States to decrease it in 2020 by 20%, compared to the level from 90') (EEA, 2013).

One of the solutions that would be able to improve this situation is reclaiming the food excesses and its redistribution. It is a solution that responds to the growing need for affordable food in affluent societies. For this purpose many countries have adopted legislation to encourage behavioral changes at the level of the citizens and the business world in order to reduce food waste and improve the overall consumption habits, but also in order to reclaim the products that are still suitable for consumption, but can no longer be sold (Parfitt, Barthel, Macnaughton, 2010). This kind of law regulations are most often implemented by third sector organizations.

This article will present the best examples of this type of organization and solutions from several European countries, including Poland.

2 Theoretical framework

Before we move on to discuss local solutions that can bring a response to the global problem, which is insufficient amount of food and its wastage, we should define few terms. The most important are food security and food wastes.

Neither in the scientific communities, nor in public politics, the one coherent definition for food wastage does not exist. The Food and Agriculture Organisation (FAO) distinguishes this term between two main categories: the food loss and food waste (FAO, 2011). The food losses refer to the wastage before the food supply stage - mostly during the sowing, cultivation, harvesting, processing, conservation and at the first few stages of agricultural transformations. The food wastes are the losses resulting from the negligence of retailers and consumers, but also from conscious decisions about getting rid of edible food items. FAO scientific figures are based on products weight. In terms of weight, one ton of grains is equal to a ton of fruits or meat, but these kinds of foods differ significantly in terms of water content and calorific value per kilogram (kcal/kg, see Figure 1). For example, one kilogram of wheat flour contains approximately 3 643 kcal (12% of water), while one kilogram of apples contains about 578 kcal (84% of water). Therefore, the weight measures does not properly reflect the energy in foods that may be consumed by humans.



Figure 2. Contribution of individual food products in the worldwide food loss and waste, 2009.
From: Reducing food loss and waste, World Resources Institute, 2013.

The second key term for this thesis is food security. According to researchers, it is accurate only when people have continuous physical, social and economical access to sufficient, safe and nourishing food to meet their needs and food preferences necessary for healthy and active lifestyle (FAO, 2009). This term has been so far considered mostly for underdeveloped countries, and the global literature is also focused mainly on them (Bittes, Ferrari Filho, Camargo Conceição, 2009, Stewart et al., 2013). But in recent years the number of people who do not have access to safe and nourishing food is growing also in highly developed countries. According to *World Disaster Report* in different European countries, many organizations and public institutions noticed the general growth of needs - not only among already existing, but also in new, exposed to poverty groups of people (IFRC, 2013, Publications Office of the European Union, 2015). The Eurostat data from 2013 shows that 24.5% of the European Union population has been exposed to poverty or social exclusion. In practice it means that people in their everyday's life have to face at least one of the following social situations: they are exposed to poverty because of social transfers (i.e. income poverty), they are deprived of the livelihood or live in household with very low work intensity (Publications Office of the European Union, 2015).

The European Union situation is deteriorating also by the aging population, growing poverty and unemployment. As the increasing demand for food aid for charities in many European countries shows, the lack of food security is often related to the above-mentioned social problems of European Union (IFRC, 2013, Lambie-Mumford, Dowler, 2015).

Food saving and reclaiming its excesses cannot be the only solution to accomplish the sufficient level of food security. Nevertheless for the EU policy makers it is one of the most important fields of intervention. It is often indicated as one of the priorities that are able to reduce the food loss and waste in the same time (Parfitt, Barthel, Macnaughton, 2010, FAO, 2011, BCFN, 2012, Deloitte, 2014). Among other things, for this purpose the European Union in 1987 has started the *Food Distribution Programme for the Most Deprived Persons of the Community* (MDP) (EC, n.d.). Their goal was to make the public acquisition more effective – by reclaiming the excesses of agricultural stock and handing it over as a food aid for the

groups of highest needs in the community³. Unfortunately this program was not able to fare with the declining level of agricultural stock; so in the middle of 1990 it has been modified. In its newer form it included the possibility of purchasing goods on the market and in the subsequent years the program became more of a market system. In following years, especially 2011 and 2012, after the reform of Common Agricultural Policy (PAC) and the German dispute against the European Commission, the excesses had been rapidly utilized. In order to not replace the interventional stocks by purchasing goods on the market, in 2013 the European Council and the European Parliament finally decided to close the MDP. In its place they established the *Fund for European Aid to the Most Deprived* (FEAD⁴). Its purpose was to support the actions of EU countries in order to provide material assistance to the most deprived people⁵. Nevertheless this foundation activity is fully based on purchasing the food and other goods from public funds. It does not de facto impact the policy related to the food donations and reusing the food excesses, so it can not be included in policies to promote such actions.

3 Method

The author of this text has participated in the project *Foodsaving: social innovation for the food surplus recovery* (Foodsavingproject, n.d.), which researched the best ways of reclaiming the food excesses in four European countries. The project has been carried out in 2014-2015 by a consortium of three key universities of Milano: Università Luigi Bocconi, Università Cattolica del Sacro Cuore and Politecnico di Milano. The research was conducted in four key European regions, chosen due to the idea of World Regions Forums⁶ about their comparability and competitiveness. Those regions were: Lombardia (Italy), Catalonia and Madrid (Spain), Baden-Württemberg (Germany) and Rhône-Alpes (France). The goal of the project was to examine numerous initiatives realized by profit and non-profit organizations in order to reuse the food excesses for social purposes.

In this article the theoretical assumptions of the project and the state of research worked out during the project conduction we used, along with following testing methods: analysis of the documents and international literature of the subject, interview and observation.

³ Which in 2010 passed the number of 18 millions.

⁴ *Fund for European Aid to the Most Deprived*. Retrieved from <http://ec.europa.eu/social/main.jsp?catId=1089>

⁵ It includes donations of food, clothing and other necessary items for personal use (EC, 2014).

⁶ The first global network of excellence in regional management of global problems such as innovation, competitiveness, health, environmental research.

4 Results

4.1 European legal regulations

Development of general legal regulations concerning the food donations poses many problems. Here are the two most important ones.

The potential donors often get rid of food excesses instead from redistributing it to the food banks or charitable organizations, because because they fear liability risks for the donated food. Currently, by virtue of General Food Law UE (Regulation (EC) No 178/2002) entities engaged in the food sector must ensure that their food products or feed meet the requirements of the food law, depending on the type of activity they perform. In case of food poisoning the producers and distributors would be responsible for this situation and thereby jeopardise their reputation. To prevent such situations in recent years several European countries (France, Greece and Italy) has adopted regulations transferring this responsibility from donors to recipients.

France is the first country in the world that implemented the law prohibiting the supermarkets to utilize the unsold food and forcing them to donate it to charity (Senat, 2015). Creators of this law anticipate that all unsold, but still edible food should be donated to charity or for immediate distributions for the deprived people. When it comes to food that does not meet the food safety requirements, it is to be passed on to agriculture for use for agricultural purposes. According to this legislation, supermarkets in size of 400 thousand meters or more by July 2016 were required to sign an agreement with one or more charity institutions dealing with food redistribution. In case of absence of such contract, they may be imposed with a fine up to 75,000 EUR or two years in prison.

The source of this regulations was a campaign carried out in France by buyers, poverty fighters and those who oppose food waste. The campaign itself and the petition following it were initiated by a young center-right politician, councilor in Paris Courbevoie - Arash Derambarsh, who started his activities from collecting unsold food and passing it on to the needy. The next step was to create an online petition that helped create the basis for the new law. This law de facto establishes a fairly rigid hierarchy of food use for French retailers, as it obliges them to retain the priority of its re-use for human consumption.

The second problem is general misunderstanding concerning two dates visible on the products: „best before” and „use by”. Many people do not see any difference between them and they consider „best before” as an expiration date and not the date of its highest quality, while considering the final expiration date as „use by”. At the same time there is no way for donating products that are past the „best before” date, while still being edible. In European Union there is no regulations concerning the donation of food after „best before” date. Such legislation was introduced in 2012 in Greece, but after the wave of media criticism concerning the provision of the needy products of inferior quality, ultimately withdrawn this

right⁷. On the other hand, Belgium established guidelines for the assessment of the additional lifetime of food after reaching or exceeding the „best before” (Van Boxstael et al., 2014).

Only two EU countries offer tax incentives for donation of food. And here again France and additionally Spain are leading the way. In these countries, companies that are donating food can take advantage of the lower income taxes from legal entities in the amount of 60% (France) (Senat, 2015) and 35% (Spain) of the donated goods. Portugal also has good practices in this area as they have possibilities of even higher taxes allowance. This means that donors can deduct 140% of the food value at the time of donation, on condition that it will be used for social purposes (such as supplying food banks) (Deloitte, 2014).

Additionally, another important legal regulation was implemented in 2008 by Waste Framework Directive (Directive 2008/98/EC) hierarchy of wastes management through prevention, preparation for reusing, recycling, recovery and disposal. However, there are no specific EU guidelines concerning the hierarchy of food use. Priority is given to the redistribution the food to feed people and then to animal feeding and the recovery of energy or nutrients from food components. Unfortunately, for some entrepreneurs it may pose many problems - in some EU countries, such as the United Kingdom, it is more expensive to transfer food excesses than to use it for energy recovery.

4.2 Impact of local initiatives on countries food policy - Poland casus

Poland is one of the countries that legally remained behind the other EU countries for quite a long time. It was only in October 2013, after a few years of struggle between entrepreneurs and food banks, the unfavorable law has been changed. In its previous form it caused the waste of about 500,000 tons of food excesses from stores, instead of supporting those in need. This right is an amendment to the VAT Act, according to which food distributors will be exempt from the responsibility to pay this tax if they donate the food to the needy for free (Pieńczykowska, 2013). Earlier, throwing food into the trash was more profitable for traders, because from every product donated to a charity, tax offices demanded to pay VAT, which was 5.8 or even 23 percent of the product value - depending on the type of food.

Nowadays, both producers, stores, commerce networks and restaurants can donate free-of-wholesome food for free, when the product is approaching its expiry date in a few days. The recipients of the gifts can be only public benefit organizations, and the transfer of each kilogram must be properly documented. Another condition is that food can not be sold again - it must be passed on to the needy free of charge. The effect of this amendment was that many commerce networks signed agreements with charitable organizations. Among them there are

⁷ *It's Official: "Expired Food" Will be Sold in Greek Supermarkets.* Keep Talking Greece, Greek News in English, Blog, Wit & Drama. Retrieved from <http://www.keeptalkinggreece.com/2012/10/12/its-official-expired-food-will-be-sold-in-greek-supermarkets/>

i.a. Tesco and Auchan, which even earlier cooperated with Food Banks at Christmas food collections (Nowiny.pl, 2016).

A very interesting program is STOP Waste, initiated by Carrefour Poland⁸. Their goal is to fight everyday food wastage at many levels of the company's operation and promoting the prevention of wastage among employees, suppliers and customers of the shops network. The program conducts seven fields of action: employee education and the implementation of ecological habits to everyday practice in Carrefour offices and shops, optimization of goods circulation, engaging the suppliers' to avoid the food waste, customer education in the area of wastage prevention, reduction of wastage related to packaging management, optimization of transport and logistics and rationalization of energy consumption. As a result, Carrefour implemented LED lighting in nearly 147 stores in Poland, and in 23 of them - a refrigeration system based on the CO2 factor. Additionally, in 5 stores, the FCH system was introduced. It used the temperature of groundwater, which reduces the consumption of electricity and heat by 50% compared to conventional systems. In 2016, thanks to the management of composting the bio-waste, Carrefour reduced the mass of waste sent to the landfill by nearly 3000 tons, and 100% of super- and hypermarkets in Poland signed agreements concerning the food excessed donations with Food Banks. In addition, the Carrefour Foundation funded the purchase of 16 refrigerated trucks for the Banks⁹.

Another extremely fascinating initiative is Foodsharing, founded in 2012 in Germany by Raphael Fellmer¹⁰. Foodsharing rule is to simply share food with others - in case we have prepared too much of it (e.g. cake or dumplings) or if we made too big surpluses and we will not be able to eat it, because the expiration date will be over - this may apply to for example, pasta, bread or fruits. In 2016, the idea reached the Vistula and quickly spread among the largest Polish cities¹¹.

One more interesting project was launched by Warsaw students from the Warsaw School of Economics - Feed Them Up¹². The idea of this endeavour is to redistribute the food excesses, which many restaurants are getting rid of every day, and hand them over to charitable foundations. The process of transferring surplus food is simple. Restaurants must sign only a donation contract under which they will provide their surplus to Feed Them Up. In the next stage, they will go to a public benefit organization in Warsaw. This is the first initiative of this kind in Poland.

⁸ See *Carrefour*.

⁹ See *Retail Action Plan*.

¹⁰ See *Foodsharing*.

¹¹ See *Alteia*.

¹² See *Feed-them-up*.

Established in 2015, nationwide Polish campaign „Let’s share” is strictly time-limited¹³. It is a social project where everyone who has excess food at home can share it with the homeless. The campaign is being conducted around Easter, because it is the time when Poles waste the biggest number of food. The project has been conducted in 17 Polish cities and its range is continuously increasing.

5 Conclusion

Giving the examples of such initiatives could be never-ending. This article recalls only a few selected and most recent Polish endeavours. Interest in recovering food excesses, both at the national and EU levels, has been so great in recent years that initiatives associated with it appear incessantly. At the same time, they are often very innovative and they arise from bottom-up movements of the citizens themselves. One of them is, for example, Last Minute Market¹⁴ - an Italian project enabled in over 40 Italian cities, aiming at recovering food products and collecting surplus from companies and food productions, vegetables that have been collected and stored in the field. Another bottom-up initiative is the French National Association for the Development of Solidarity Groceries (ANDES Association Nationale de Développement des Épiceries Solidaires)¹⁵, which was established as a protest against food waste and growing number of people that could use it¹⁶, or GESRA¹⁷ - Association of Food and Social Solidarity Stores Rhône-Alpes (Groupement des Épiceries Sociales et Solidaires Rhône-Alpes). It is an innovative network of social and solidarity stores, based on the French law from 1901. Its business goal is to promote, create networks, support, accompany or conduct any activity that serves the management and development of social grocery stores in the Rhône-Alpes region.

Another important social initiative is „Food Not Bombs”¹⁸ - an informal campaign for global peace and social justice. It was initiated in the 80's in the USA during anti-nuclear and anti-military protests. Currently, FNB groups operate in most large cities of the world, and they do not have a hierarchical structure, but are based on voluntary activities. The message behind the campaign is to oppose the current system in which we can witness a huge waste of food in rich countries, destroying its surplus to maintain high prices, commercialization and subordination of the consumption logic in each zone of life, or finally further wars for constantly dwindling resources.

The shortage of food in some way affects the whole world, and this peculiar dichotomy, consisting in the fact that millions of people suffer from malnutrition while every day tons of

¹³ See *Głos Wielkopolski*.

¹⁴ See *Lastminute Market*.

¹⁵ See *Andes*.

¹⁶ Solidarity stores offer low-income consumers 10-20% cheaper food than their normal retail price.

¹⁷ See *Gesra*.

¹⁸ See *JZB*.

food are thrown out became the center of attention of the modern world. The answer to the question of whether this problem can be solved is very difficult. Not surprisingly, the number of undertaken initiatives, at various levels - international, national and local - is so large that it indicates that this problem has become a key issue. Good local practices in a very tangible way affect the social perception of the problem and legislative changes that are slowly occurring in individual countries. Poland is one of the examples of this process. The next years will show whether these initiatives will actually help solve the global problem of food shortages. The key is education - both at the level of the final consumer as well as on entire food production stage and in distribution process. My research is a voice in the discussion about possible solutions to this problem, but there is still much to be done at both local and global levels. And many more areas remain for further research, in terms of good European and global practices as well as legal regulations.

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Povzetek:

Prehransko varčevanje za trajnostni razvoj: Lokalne predpostavke globalnih problemov

Namen in originalnost: Prehranska varnost postaja vedno pomembnejša tema vlad, mednarodnih organizacij kot tudi ekonomskih ter nevladnih subjektov terposameznikov. Do nedavna je veljalo prepričanje, da to vprašanje ne zadeva razvitih držav, vendar se je v luči ekonomske in finančne krize pokazalo drugače. Neizpoljenost prehranskih virov zadeva celoten svet. To stanje poslabšuje tudi dejstvo, da na eni strani milijoni ljudi trpijo za pomankanjem dostopa do kvalitetne hrane, med tem ko na drugi strani dnevno zavržemo tone dobre hrane. To stanje zahteva odgovore na vprašanja, kako lahko to rešimo, kakšna je vloga lokalnega okolja v tem okviru. V članku obravnavamo nekatere primere evropskih dobrih praks na področju uporabe presežne hrane, ki pripomorejo k zagotavljanju trajnosti v svetu.

Metoda: Avtorica raziskave je članica projekta s področja prehranskega varčevanja, ki se je ukvarjal z dobrimi praksami na področju upravljanja s prehranskimi presežki v štirih evropskih državah. Projekt je vključeval tako teoretske predpostavke kot tudi empirične rezultate.

Rezultati: Ključni rezultat je predstavitev najboljših evropskih praks na področju izrabe prehranskih presežkov, s poudarkom na Poljski.

Družba: Predstavitev dobrih praks vpliva na družbeno odgovornost zaznavo problemov in domačo ter mednarodno regulativo v zvezi z obravnavano problematiko. Kaže tudi na to, da lahko družbena odgovornost vpliva na vsakdanje življenje.

Omejitve/nadaljnje raziskovanje: Raziskava ima lokalni fokus na področju dobrih praks, še vedno pa obstaja več drugih rešitev, ki niso bile obravnavane in bi lahko v nadaljevanju vplivale na družbeno odgovornost ter okolje v tem kontekstu.

Ključne besede: hrana, odgovorno ravnanje s hrano, neprofitne organizacije, globalni izzivi, lokalne posledice, trajnostni razvoj, okolje, družba.

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