
Social Supermarket and Sustainability

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Abstract

Food waste increases the amount of food waste, which, combined with the amount of waste from other areas or due to industrial surplus, has irreversible consequences on the environment. To avoid disastrous consequences with economic, social, political and ethnic implications, it is necessary to identify viable solutions so that the food surplus can be redistributed to food banks, food pantries or social supermarkets, in optimal conditions, thus becoming a sustainable social good.

This study aims to analyse the link between food banks, considered charities and social supermarkets. It is also useful to identify policies to support food donation actions but, simultaneously, to identify solutions to improve supply management in the field. Simultaneously, it wants to identify functional solutions at the level of European countries that may have applicability in the US, giving people who face food and financial insecurity, dignified access to products needed for daily consumption. The authors consider it necessary to identify innovative solutions to reduce food losses and waste but also promoting actions to raise public awareness for a rational and healthy consumption.

Keywords: Social Supermarket, Sustainability, Food bank, Food insecurity, Poverty, Social benefits.

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Introduction

Building a sustainable society is more than economic development through automation and digitisation. While social inequality, corruption and environmental issues are some of the barriers to sustainable development, government policies to green production and consumption are less destructive approaches to the environment. Thus, an adjustment of production can reduce waste of resources, sustainable waste management but also to a responsible consumption.

Insufficient resources, especially food resources, are a pressing problem and reducing food waste is considered a solution with economic, social, ethical and ecological implications (Bräutigam, et al., 2014). Reducing the amount of food waste is an immediate effect of reducing food waste, a fact noted by the impact on the environment, the economy and society and can be achieved at the individual or community level. This goal can be achieved both by identifying the cause, to reduce the amount of food waste generated, but also by donation or recycling. If some of the waste can be recycled, food that is considered safe and does not pose a danger to society can be donated to food banks, anti-hunger organisations, and social supermarkets (The Food Waste Reduction Alliance (FWRA)).

Globally, about 1.4 billion tons of food waste are generated annually, while in the United States more food is dumped annually than in any other country in the world, about 40 million tons, with estimated

costs of around 92 billion euro (Recycle Track Systems 2021), in the European Union (EU) are generated approximately 88 million tons with associated costs estimated at 143 billion euros (Stenmarck, 2016). However, poverty and food insecurity are substantial problem in today's world, the last period emphasizing the "food paradox" (Gali, 2019; Berti, et al., 2021).

Waste reduction is a challenge for all states, regardless of the level of development, one of the unanimously accepted approaches being the identification of new public policies in the field. Among the innovative social solutions identified, both in the US and in the EU, we can list: the development of policies to stimulate food donation or the use of alternative storage methods: waste composting or the creation of anaerobic digestion stations.

This paper proposes an assessment of how to reduce food waste by donating to food banks and social supermarkets and its impact on food poverty and insecurity.

Review of the scientific literature

The "food paradox", generated, on the one hand, by food waste, and on the other hand by poverty and food insecurity was the subject of several studies in the field, but also the attempt to identify new social policies by governmental and non-governmental organisations (Pfeiffer, et al., 2015; Garratt, 2020). Generally, food insecurity has been identified as a response to low incomes and, most often, as a characteristic of the unemployed or those with social assistance (Dobre, et al., 2020). Other categories covered by food insecurity are the elderly or those living on rent, women, single-parent families, people with lower education or those with disabilities. More than that, starting in March 2020, the rate of food insecurity is on the rise due to the economic and social consequences of the COVID-19 pandemic.

A solution to address this phenomenon is given by design networks of food banks or social supermarkets. The controversy caused by this solution is that, most of the time, these organizations can only remedy the effect of the food paradox but do not aim to address the structural causes. Through the common goals, on the one hand, reducing poverty and hunger among disadvantaged groups, and on the other hand, reducing food waste, food banks and social supermarkets actively contribute to achieving the Sustainable Development Goals (SDGs) of the UN 2030 Agenda (United Nations, General Assembly, 2015):

- **SDG1** *"No poverty: End poverty in all its forms everywhere"*;
- **SDG2** *"Zero hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture"*;
- **SDG12** *"Responsible Consumption and Production: Ensure sustainable consumption and production patterns"*.

In its 2020 report, the Global Food Banking Network aims to serve 50 million people by 2030, as well as meeting **SDG2 Zero Hunger** and **SDG12.3 Reducing global waste and food losses per capital** (The Global Food Banking Network, 2020).

Thus, we can say that, in addition to providing access to people from vulnerable social categories (mentioned above) to products of strict necessity and reducing losses of producers and traders, these social solutions also offer the possibility to increase employment and living standards (Boukhris-Ferré, 2020). In specialised studies, references to social enterprise and social entrepreneurship are complemented by references to supermarket social responsibility policies (Defourny and Nyssens, 2010; 2010a).

The principle of corporate social responsibility (CSR) is reflected in: donating surplus food to food banks or social supermarkets; reduction / reuse of food waste; sustainable supply; food safety governance and increasing the number of own brands (Pulker, et al., 2018; 2018a). According to CSR principles, the social enterprise (social supermarket), in addition to providing social services, improves individual and collective well-being (Hicks and Kenworthy, 2003; Laguir, et al., 2019). Thus, in the case of social supermarkets, the amount of food waste can be reduced by reducing food waste (Holweg, et al., 2011; Holweg, et al., 2016) or by optimising supply management (Spang, et al., 2019). Basically, responsible eating behaviour must be identified at both individual and community level (Schanes,

2018). However, there are also researchers who do not identify any direct association between the purchase of food in social supermarkets, often at the limit of expiration and the amount of household food waste (Giordano, 2019).

Bank food and Social Supermarkets: goals, taxonomy and sources of funding

Food Bank

The first food bank was called the "St. Mary's Alliance" and was founded by John van Hengel in Arizona - United States in 1967, and since then the phenomenon has spread around the world. A few years after the opening of the first food bank in the United States, the concept was taken over by Canada. Defined as organizations that "function by acquiring donated food, much of which would otherwise be wasted, from farms, manufacturers, distributors, retail stores and consumers, and makes it available to those in need through an established network of community agencies" (Global Food Banking Network, 2016), food banks were first mentioned in Europe in 1984 (France) and 1986 (Brussels), respectively. These formed the basis for creating the European Federation of Food Banks (FEBA) at the end of 1986. The development of a single, organised body at European level, representing food banks, was necessary for evolving food banks in European countries. At the level of 2018, the association includes approximately 400 food banks and branches in 29 European states, of which 5 are associate members (Caraher, et al., 2014; Riches, 1986). Food banks are the foundation of the US emergency food system whose main objective is to fight hunger. However, increasingly often, the employees of these organizations promote the consumption of nutritious and healthy foods, to prevent obesity or diseases caused by inadequate nutrition, among people subject to food insecurity (Handforth, et al., 2013). This is also observed in Australia, the Foodbank of Western Australia (Caraher, et al., 2014a) or in EU Member States, especially in Austria and the United Kingdom.

In the United States, the Food Waste Reduction Alliance (FWRA) is an organization that advocates for reducing food waste by donating food and recycling food waste (energy, composting) and is governed by the following principles:

- complies with the food recovery hierarchy of the United States Environmental Protection Agency (EPA) and initiates, as a matter of priority, actions for the prevention and recycling of food waste (Figure no. 1);

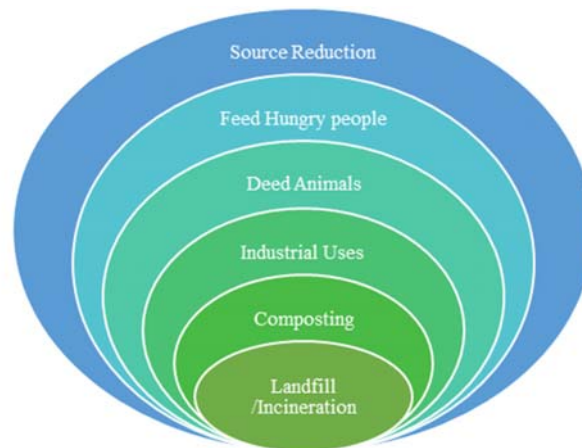


Figure no. 1. Food Recovery Hierarchy

Source: United States Environmental Protection Agency (EPA) - <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy#about>

- supports voluntary actions to reduce food waste;
- undertakes educational actions aimed at raising public awareness of healthy and responsible consumption in order to reduce food waste;

- supports the identification and creation of policies to develop food waste recycling and donation infrastructure in the US;
- supports the development of global policies and strategies for US states and forms of organization, related to economic reduction, recovery and recycling, with the aim of reducing food waste and increasing donations;
- supports the development of a legislative and fiscal framework that provides greater protection for donor liability and stimulates food donation from donors.

Social Supermarket

Originally created as a social safety net, Social Supermarkets (SSM) are initiatives that contribute to mitigating the effects of poverty and social vulnerability. Unlike food banks, they give the feeling of normalcy to low-income people, in increasing numbers lately, through the dignity conferred by the possibility of choosing the necessary products, and their impact on them cannot be underestimated.

The first Social Supermarket, launched in 2013 in Goldthorpe, South Yorkshire, was followed in the next 4 years by 7 other "parent" initiatives (with several branches / franchises). In 2020, the first SSM was opened in New Zealand.

Complying largely with the operating principles of food banks, SSMs mainly store food surplus as well as some non-food goods:

- products close to the expiration date;
- products with damaged or old packaging;
- incorrectly labelled goods,
- products from too much stock, due to a supply error or due to a sudden change in customer demand etc.;
- stained fruits and vegetables etc.

Not least, social supermarkets can be considered social enterprises with *economic objectives* - selling or providing access to food cheap, *social objectives* - supporting people in need of help and the *environment objectives* - reducing food waste by facilitating the redistribution of food surplus. Holweg interprets all this as a “win-win-win” relationship between producers / traders, organisations that own SSM and customers (NPR.org, 2013).

The element of innovation introduced by social supermarkets is also highlighted in the feasibility study developed within the EU FUSIONS project (Schneider et al.). At the level of SSMs included in the analysis, out of the 380 European organizations active in the field, an assessment was made of the social impact of product redistribution activities. Thus, together with the FUSIONS partners, a logical map was created to include the strategic objectives of the feasibility study (Figure no.2).

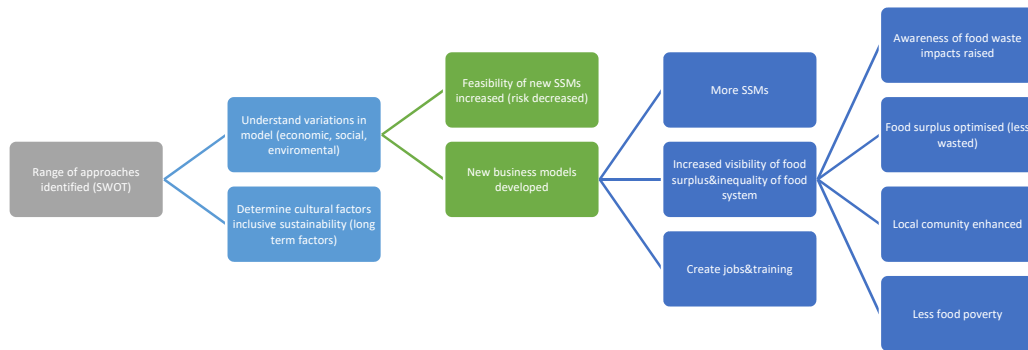


Figure no. 2. Social supermarkets

Source: Feasibility study - Implementing social supermarkets in Europe (2015), p. 8

In the United States, if food banks and food pantries are well-defined organizations, spread across all states, setting up social supermarket chains is a real challenge. Analysing the literature, as well as the results of the feasibility study mentioned above, we can say that there is a basis for identifying the factors that contribute to the expansion of this concept. Thus, in addition to the social benefits offered, the possibility of purchasing products at a reduced price, this system offers people the status of customer and the possibility of a dignified life.

To identify the possibility of successful implementation of SSMS in the US, a study of the current economic framework and the parties involved or interested in this phenomenon is needed:

1. US Government

Reducing excess food and food waste has economic, but also social and environmental benefits. Complications caused by food waste are reflected in:

- 1.1. **economic problems** – in the United States, at the level of retail and consumption, food waste and food waste total about 161 billion dollars (US EPA, OLEM, 2018).
- 1.2. **social problems** – in the US, more than 37 million people, of whom more than 11 million are children, live in households that have faced food insecurity in 2018 (US EPA, OLEM, 2018);
- 1.3. **environmental problems** - food waste, which reaches landfills, produces greenhouse gases (methane).

The fact that in 2018, the United States Environmental Protection Agency (EPA) estimates that approximately 63 million tons of food is wasted confirms that food waste is becoming a growing problem in American society. At the same time, the fact that food that reaches landfills or incineration plants has the largest share of household waste can be a challenge for the authorities. Thus, the possibility of looking at food waste as an untapped opportunity can give governmental and non-governmental organizations the opportunity to create public policies that can reduce on the one hand the amount of food waste and on the other hand can reduce the risk of insecurity food and can combat poverty.

Simultaneously, the EPA provides funding opportunities for optimal solutions for developing a sustainable food system management (US EPA, 2019).

2. US retailers and manufacturers

To ensure a legal framework to support the reduction of food waste by donating healthy food but at the same time to ensure the protection of donor liability, the Federal Government has established provisions, including:

- 2.1. **1996** – "*The Bill Emerson Good Samaritan Food Donation Act*" – encourages the donation of food to non-profit organizations for distribution to people in need (U.S. Government Information, 1996);
- 2.2. **INTERNAL REVENUE CODE** – large tax deductions for businesses to encourage donations of healthy food to specialized non-profits serving the poor and unwilling (U.S. Government Information, 2011);
- 2.3. **2008** – "*Federal Food Donation Act of 2008*" – which encourages federal agencies and federal agency contractors, as far as possible and safely, to donate healthy, excess food to eligible nonprofit organizations to feed people with eating disorders in the United States (U.S. Government information, 2011).

3. American citizens at risk of poverty and food insecurity

In addition to the social benefits offered, the activity of Social Supermarkets aims to solve, long-term, economic, political and environmental problems, leading to the achievement of the sustainable development objectives proposed by the 2030 Agenda:

- 3.1. Decreased unemployment;

- 3.2. Reducing the share of food waste – through innovative approaches to reducing food losses and waste;
- 3.3. Reducing the risk of food insecurity and poverty (Figure no. 3).

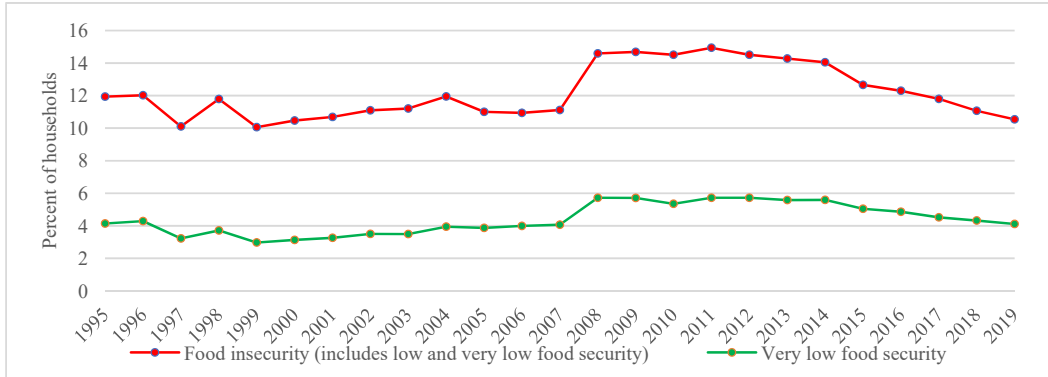


Figure no. 3. Trends in prevalence rates of food insecurity and very low food security in U.S. households, 1995-2019

Source: USDA, Economic Research Service, using data from the Current Population Survey Food Security Supplement

A major importance in achieving the objectives of SSMs is the awareness-raising activities with the purpose of changing their eating behaviour, which will lead to better food waste management at the individual level and, implicitly, at the community level.

Currently, 37% of US food waste is at the household level, which requires the development of policies and strategies for the recovery, recycling and reuse of food waste.

Table no. 1. EPA’s food waste generation methodology for food banks

Scope	Paramater	Quantity	Source
Feeding America	Excess food received that is disposed of (tons)	60787	Feeding America, 2014
	Number of Feeding America locations providing excess food data	203	Feeding America, 2014
	Food waste generated per food bank (tons/food bank)	299	Calculated
National	Total number of food banks nationwide	1263	Hoovers, 2017
	Total quantity of food waste generated by the food donation sector (tons)	378198	Extrapolation calculation

Source: Wasted Food Measurement Methodology Scoping Memo (p. 84)



Figure no. 4. General methodological

Source: Wasted Food Measurement Methodology Scoping Memo (2020), p. 6

The paper "Wasted Food Measurement Methodology Scoping Memo", published in 2020 by the US Environmental Protection Agency, describes the possibilities for measuring food waste used by the EPA (Table no.1), as well as the improved methodology that the EPA developed during 2017 and 2019, through specific estimates of excessive amount of food and food waste (Figure no. 4) and can be a foundation for establishing a chain of SSMs in the US (US Environmental Protection Agency, 2020).

Conclusions

Addressing food poverty by combating food waste in a way that promotes the dignity and accessibility of those facing food and financial insecurity may be one of the definitions of the social supermarket.

Certainly, we can say that food banks have saved lives, but they do not have to be a long-term solution for a family. However, the safety offered by the social supermarket and the creation of an inclusive environment regardless of the financial situation of customers, is doubled by the necessary dignity of people going through difficult situations.

Future research opportunities aim at an analysis of economic and social indicators considered essential in reducing the food paradox. Thus, we will include in the analysis aspects related to the food desert and the distance to the nearest store specific US items.

But then, the sudden change in demand since the emergence of COVID-19 highlighted the weaknesses of the existing supply chains. The cancellation of contracts, the closure of businesses in the food and hospitality segment, have sometimes led to food surplus stuck in farms or warehouses. In order to strengthen the business of American farmers, which would also lead to food donation, it is useful to develop policies that optimize the way food is supplied: on the one hand, the elimination of intermediaries and the possibility for farmers to sell through new distribution channels directly to consumers, and on the other hand the supply of fresh and nutritious products to families in food insecurity, in order to provide them with a healthy diet.

However, social supermarkets are also vulnerable. The risks to their survival stem from the complexity and unpredictability of supply links with food surpluses, the heavy reliance on volunteers in some cases and their financial viability. This raises questions about their sustainability and the positive results they are expected to achieve in supporting vulnerable people.

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