

# Sustainability and sustainable development

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# 3.

## SOCIAL SUPERMARKETS AS A SOLUTION TO FOOD WASTE AND ISSUES OF POVERTY



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**Abstract:** The main objective of this chapter is to present and discuss a possible solution to food waste as a problem occurring in traditional food supply chains, on the one hand, due to food overproduction, and on the other, poverty as a result of economic and pandemic crisis in Europe.

The structure of the chapter covers two areas:

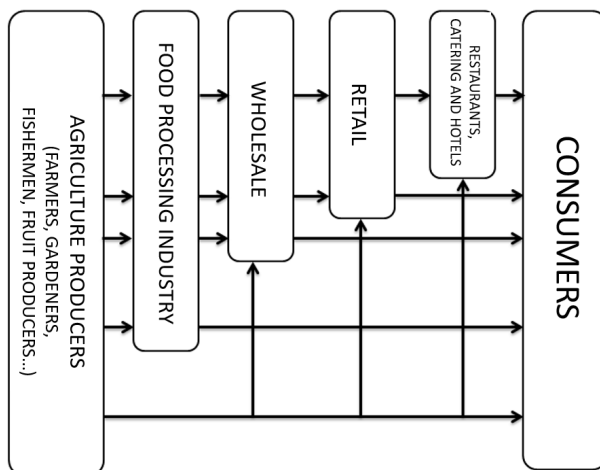
1. Food waste as a problem in food supply chains.
2. Reduction of poverty by implementing social supermarkets as new players in the food supply chain.

**Keywords:** food waste, poverty, social supermarkets.

### 3.1. Food waste as a problem in food supply chains

The food supply chain is formed of interconnected enterprises from the field or farm to the consumer's table. Its structure is specific compared to supply chains of other product types (e.g. cars, footwear, clothing or electronic products). Prospective participants in the food supply chain and the links between them are shown in Figure 1. The participants of the supply chain are agricultural producers: farmers, gardeners, farmers, fishermen, fruit and grape producers, who sell their products: (1) directly to consumers, or (2) to an intermediary organisation (wholesale, retail, hotel, restaurant, etc.), or (3) to the processing industry as raw materials, which will turn them into finished food products and distributes them among the market. The manufacturing industry can also sell its products to consumers directly or through one or more intermediaries.

The number of intermediaries that may be present in the food supply chain is not limited, and each participant of the chain invests resources and adds value to the food product delivered to the final consumer. During its way through the chain, food products are transferred between chain links in the same or an altered physical form. Any investment of resources in the supply chain causes an increase in costs of the supply chain, and leads to an increase in the final price of the product. However, if the perceived value of the final product sold to consumer is greater than or equal to the cost-price, this will result in consumer satisfaction.

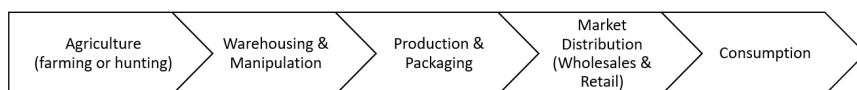


**Figure 1. Members and connections in food supply chains**

Source: Adapted according (Pullman & Zhaoui, 2012, p. 2).

The processes that take place in food supply chains can also be observed sequentially. In Figure 2, the basic processes in the food supply chain are shown. First,

crops are grown, animals are raised or hunted (e.g. fish), then the food produced is stored and either distributed on the market or processed. In the processing of input raw materials, finished food products are produced, which are re-stored and delivered through the market distribution system to the final consumer for consumption.



**Figure 2. Basic processes in food supply chains**

Source: Adapted according (Lipinski et al., 2013, p. 5).

Food loss in the supply chain, as a term, refers to all food that spoils, spills, or significantly loses quality so that it does not reach the end-consumer through the supply chain at all (Parfitt, Barthel, & Macnaughton, 2010). Food losses occur at the stages of production, storage, processing and physical distribution as an undesirable consequence of business processes or technical constraints of storage, infrastructure, packaging or marketing activities.

In contrast, the term food waste refers to food that is of appropriate quality and suitable for human consumption, but ultimately, is not consumed for some reason. Food waste usually occurs in retail or in the consumption phase, and is the result of consumers' negligence or a conscious decision to throw away food (Lipinski et al., 2013, p. 4; Koivupuro et al., 2012). In the study by Knežević, Kurnoga, and Anic (2019), it is demonstrated how awareness and knowledge directly affect food waste levels among the student population.

Food losses and waste can be measured by the weight of spoiled food and by the energy value in kilocalories. For example, the FAO report (2011) concludes that approximately 1.3 billion tons of food are lost annually. According to Lipinski et al. (2013, p. 7), about 56% of the total food waste in the world occurs in the developed world: North America, Oceania, Europe, and industrialised parts of Asia (China, Japan, and South Korea). Europe accounts for 14% of the total kilocalories of food thrown away on a global scale. In addition, Lipinski et al. (2013, p. 9) emphasize that between developed and underdeveloped countries, significant differences can be observed according to the stages of the supply chain in which food losses and waste occur. In North America and Oceania, more than 60% of food is thrown away during the consumption phase, while approx. 15% in the agricultural production phase. In Europe, more than half of food is thrown away at the consumption stage, about a quarter in the production phase. In Latin America, food is wasted equally during the production, consumption and storage phases (between 20 and 25% in each phase).

Principato, Secondi and Pratesi (2015) give the explanation that food losses at the initial stages of the food supply chain occur because of the limitation of

technical, financial or managerial resources. While in the final stages they occur due to unfavourable storage methods, poor purchase planning, impulsive buying large quantities of unnecessary food, spoilage of food, preparation of inadequate quantities, etc. (see studies: Stefan, van Herpen, Tudoran, & Lähteenmäki, 2013; Principato et al., 2015).

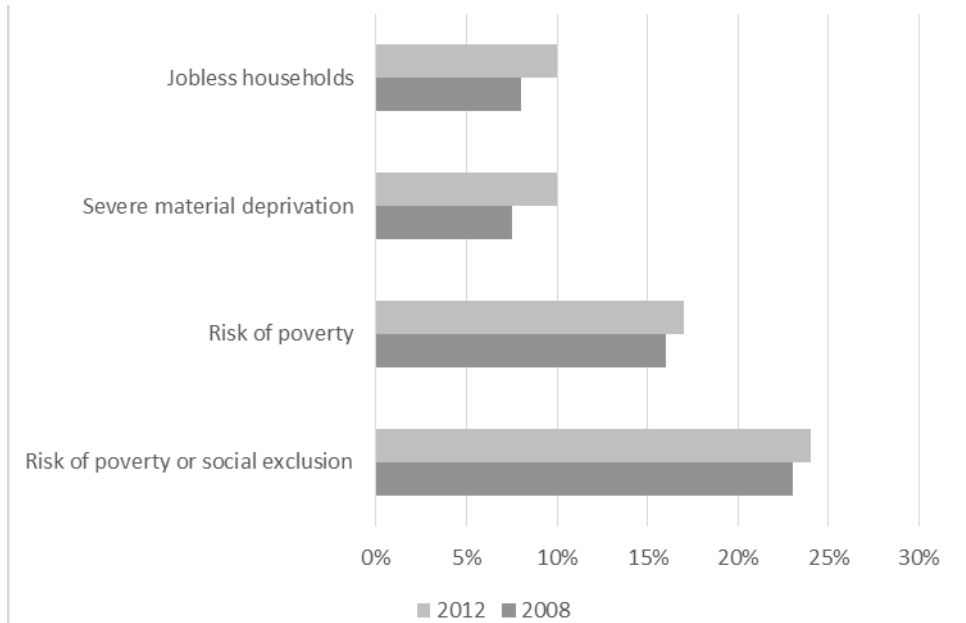
Needless to say, food losses and waste have multiple negative consequences that can be classified as: economic, social and environmental (Principato et al., 2015).

## Questions / tasks

1. Provide some real-life examples how food is wasted: (1) at farms, (2) in fishery, (3) at food factories, (4) in transport, (5) at warehouses, (6) at super- or hypermarkets, (7) restaurants, (8) your household.
2. In your opinion, who is the most responsible (as a part of a food-supply chain) for problem of food waste?
3. Do you have some ideas how to deal with food waste when it occurs?
4. Why can food surpluses be found across food supply chains in developed countries? How should consumers act to override food overproduction in the future?
5. Research approximations as to how much food is wasted globally, in your region or country. Comment: did you expect such numbers?
6. Discuss what the economic, social and environmental consequences of food waste are.
7. Could governments act in some way to prevent food waste in wholesale and retail companies as intermediaries in food distribution?

## 3.2. Reduction of poverty by implementing social supermarkets as new players in food supply chains

The recent economic crisis across Europe (2008–2014) caused significant growth of people living at risk of poverty or social exclusion. According to available data (see: EU, 2014a, b and c), in the EU, there was almost 1/4 of citizens who lived at risk of poverty or social exclusion. Moreover, 1/10 of all EU citizens experience severe material deprivation and cannot afford some basic household facilities, such as telephones, washing machines, heating, etc. More than 1/10 of the EU population is officially registered as unemployed. All poverty indicators for EU-27 Member States showed that the social situation worsened during the economic crisis (see: Figure 3), and due to the on-going COVID-19 pandemic, we can expect further continuance of this trend.



**Figure 3: Indicators of the social situation in the EU during previous economic crisis**

Source: (Petkovic, Knežević, & Pindžo, 2017) based on official EU data (EU, 2014a, b and c).

Therefore, social supermarkets emerged across Europe as an answer to this emerging problem. As a new form of organisations, social supermarkets are focused on those groups of customers with low income or who are in a situation of severe material deprivation. However, the level of development and type of their operational activity varies from country to country. Despite the fact that there is still no common definition of social supermarkets (because it should be broad enough to integrate all variations developed and existing on different markets), many different definitions and determinations of the term social supermarkets can be found.

For instance, social supermarket is defined as “a small, non-profit oriented retailing operation offering a limited assortment of products at symbolic prices, primary in a self-service manner. Those authorised for shopping are only people with severe financial situations. The products are donated by food production and retail companies free-of-charge, as they are edible but not marketable due to small deficiencies/flaws. The achieved profit is reinvested into social projects” (Schnedlitz, Lienbacher, & Holweg, 2011). Holweg and Lienbacher (2011) define social supermarkets as food oriented retailers selling food to a restricted group of people living in or at risk of poverty. According to the definition given by Holweg and Lienbacher (2011), social supermarkets are non-profit organisations, which base their activity on volunteerism and charity, and if they generate any profits, they use

them for charitable activities. In addition, in the definition by Sellmeister (2010), it is stated that “social supermarkets are organisations that provide cheap food that is no longer useful for the common trade to people who are in situations of poverty”.

According to Maric and Knežević (2014), social supermarkets are a new retail format that foster positive social change by fulfilling material needs of the socially disadvantaged groups and giving them an opportunity to preserve their dignity in an environment where they can choose various kinds of goods at extremely low prices. Some social supermarkets offer goods free-of-charge, as explained by Knežević and Skrobot (2018). In addition, Maric, Knežević, and Dzambo (2015) state that “social supermarkets represent a specific form of social entrepreneurship, because they are voluntary non-profit organisations and a special form of retail which supply socially vulnerable individuals with basic necessities”, and they claim that social supermarkets should be observed as a specific form of social innovation. Due to the fact that they promote strengthening social capital, social cohesion and develop social responsibility among all stakeholders involved in the distribution of food to socially-endangered citizens.

Within the context of food supply chains, social supermarkets position themselves as an intermediary between traditional members of food supply chains and consumers who are in material deprivation. Therefore, it can be said that social supermarkets serve as leverage, trying to establish equilibrium between the occurrence of food surpluses and food waste in traditional supply chains and the occurrence of food poverty among the population in a given area on the other side (Knežević, Maric, & Sucur, 2017).

**Table 1. Characteristics of selected social supermarkets in Croatia**

Characteristic			
Location of social supermarket	Osijek	Našice	Rijeka
<b>Name of organisation</b>	Rijeka ljubavi (Eng. River of Love)	Dar dobrote (Eng. Gift of Goodness)	Kruhsv. Elizabete (Eng. St. Elizabeth's Bread)
<b>End users</b>	3,500 individuals	700 individuals	2,000 individuals
<b>Opening hours</b>	flexible, dependable on donations, announced via social networks, at least 2 days a week	Monday-Tuesday, 5:00-7:00 p.m., and 1 <sup>st</sup> Saturday of each month, 9:00-11:00 a.m.	Monday-Friday, 8:00 a.m.-4:00 p.m.
<b>Assortment</b>	number of SKUs depends on donations, approx. 80% food, 20% toiletries	number of SKUs depends on donations, approx. 70% food, 30% toiletries	number of SKUs depends on donations, approx. 80% food, 20% toiletries, and other products
<b>Prices</b>	goods are distributed for free, package for life (14 products monthly to each household)	goods are distributed for free, based on point system	goods are distributed for free

Characteristic			
Location of social supermarket	Osijek	Našice	Rijeka
<b>Additional services</b>	delivery to disabled people by volunteers, no own vehicle	delivery to disabled people by own vehicle, planned workshops in field of psychosocial development	delivery to disabled people, systematically organised fundraising activities (annual—Young against Hunger); on Saturdays at large retail chains stores (“orange” volunteers), futsal tournaments, lunch with the homeless
<b>Location</b>	close to city centre, space is donated by the local government	close to city centre, space donated by an individual	close to city centre, space provided by local Catholic church
<b>Promotion</b>	reports in mass media, YouTube channel, active Facebook profile, leaflets, promotion at local schools, organisation of events	reports in mass media, active Facebook profile, leaflets, events	reports in mass media, active Facebook profile, leaflets, events

Source: Own research.

There is also a discussion on their role and characteristics as a new retail format (see: Lienbacher, 2013, pp. 77–138; Bogetic, Petkovic, & Knežević, 2018). This discussion takes elements of retail mix into account, such as assortment, prices, location, service and promotion, and establishing distinction towards other retail formats, especially towards convenience stores, hard discounters and traditional supermarkets. In Table 1, the characteristics of 3 good examples of social supermarkets in Croatia are shown.

## Questions / tasks

1. Research official statistical data as to how many people in your country live in poverty or material deprivation. Interpret the results in absolute and relative numbers. Does the situation seem to be changing over time (for instance from 2008 to date)?
2. According to your knowledge, are there any social supermarkets available in your city? If so, conduct small online research on their operation: location, scope of work, number of engaged volunteers, sort of events they organise, channels of communication with stakeholders, connections with religious institutions, etc.
3. Are there some other non-profit organisations dealing with food distribution to people in need? Are they supported by government or religious institutions? How are they related to official welfare systems?



4. How would you organise the work of a social supermarket if there is larger need (severe poverty in your population) than available food supplies on an everyday basis?

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