hosted by Turkish JournalPark ACADEMIC
Medeniyet Araştırmaları Dergisi

Article

Journal of Civilization Studies
ISSN: 2148-1652
e-ISSN: 2636-8374

İSTANBUL MEDENİYET ÜNİVERSİTESİ

Sustainable Food System Applications in the European Union: An Appraisal on Food Donation

Avrupa Birliği'nde Sürdürülebilir Gıda Sistemi Uygulamaları: Gıda Bağışı Üzerine Bir Değerlendirme

Journal of Civilization Studies
Volume 6, Issue 2, pp. 73-86
December 2021
DOI: 10.52539/mad.1028606
Received: 26.11.2021
Accepted: 30.12.2021

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Abstract

Food donation is generally regarded with its social benefits on society while its environmental benefits are often neglected. The main rationale behind this approach is choosing waste disposal methods is a relatively easier alternative, because the changes in the existing system result in the profit loss of economic interest groups and require more integrated policy frameworks in member states. This article discusses food donation as a tool in the sustainable food policy design of the European Union (EU) and suggests that food donation should be prioritised in the food waste hierarchy to improve all sustainability dimensions. The absence of a distinct and common food policy in the EU and failures to design an integrated policy is identified as key problems. Based on selected EU documents and Multi-Criteria Method, this research concluded that the EU should form a common food policy separated from the common agricultural policy, increase the role of environmental stakeholders and put integrated regulations among member states into action.

***Key Words**: Food Policy, Sustainability, European Union, Food Donation.*

Özet

Gıda bağışı genellikle toplum üzerindeki sosyal faydaları ile değerlendirilirken, çevresel faydaları ihmal edilmektedir. Bu yaklaşımın arkasındaki temel mantık, mevcut sistemdeki değişikliklerin ekonomik çıkar gruplarının kar kaybına yol açması ve üye ülkelerde daha entegre politikalar gerektirmesi sebebiyle atık yöntemlerini seçmenin nispeten daha kolay bir alternatif olmasıdır. Bu makale, Avrupa Birliği'nin (AB) sürdürülebilir gıda politikası tasarımında bir araç olarak gıda bağışını tartışmakta ve tüm sürdürülebilirlik boyutlarını iyileştirmek için gıda bağışına, gıda atığı hiyerarşisinde öncelik verilmesi gerektiğini önermektedir. AB'de ayrı ve ortak bir gıda politikasının olmaması ve entegre bir politika tasarlamadaki başarısızlıklar temel sorunlar olarak tanımlanmaktadır. Seçilen AB belgelerine ve Çok Kriterli Yönteme dayanan bu araştırma, AB'nin ortak tarım politikasından ayrı, ortak bir gıda politikası oluşturması, çevre paydaşlarının rolünü artırması ve üye ülkeler arasında entegre olmuş düzenlemeleri hayata geçirmesi gerektiği sonucuna varmıştır.

***Anahtar Kelimeler**: Gıda Politikası, Sürdürülebilirlik, Avrupa Birliği, Gıda Bağışı.*

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INTRODUCTION

"Traditionally, it is considered courteous to prepare more food for a meal than can be eaten and it is customary to have leftover food."

One of the environmental performance reviews in Korea from OECD (2006)

Sustainable food policy is one of the primary policy designs for the health of the next generations. Food waste prevention is an essential tool for sustainable development, which requires a new policy design to maintain sustainability in food policies. In terms of sustainable development, reducing food waste, increasing food donations to food charities or food banks, and recycling unavoidable food waste should be principal aims to cope with food waste (Food Waste Reduction Alliance, 2019). In the food chain, food is thrown away or destroyed in other parts of the chain. For instance, farmers do not bring certain products to the markets because they are not "perfect"; the food processing industry also throws away a part of their products (Esnouf et al., 2013). In contrast, food donation is a vital resource to prevent hunger around the world. Especially unsold food in supermarkets, due to labelling mistakes, are essential parts of food donation. In terms of the EU, there are many uncertainties in food donation due to a lack of common policy design. First of all, there is no previous data that specifies the impacts of food donation, which causes unpredictability of food donation effects in the long term. Second, uncertainties on existing directives cause confusion between donors and recipients because there is no clear information regarding responsibilities. Third, the transfer of food donations and responsible institutions are not clear in the regulation.

In particular, supermarkets with the biggest food resource for food donation are reluctant to implement this project. Because the EU, as a transnational actor, is not directly interlocutor with local supermarkets in the countries. Therefore, national policy is more dominant than the EU's food policy but it also harms food donation plans and sustainability goals in the countries. The vital thing about donation is its relevance with other sustainability issues like health, poverty, access to healthy food for poor people, economic competition for the supermarkets, etc. Due to the importance of edible food, a concrete policy design implemented by all member countries is a must. Currently, the EU does not have a distinct food policy[1], but several key regulations that consist of General Food Law (Regulation EC 2002/178), Food Hygiene Package (Regulation EC 2021/382 for food allergen management, redistribution of food and food safety culture; Regulation EC 2021/1374 for food of animal origin), Food Labeling and Durability Regulation EC 2011/1169, Tax on Food Donation (The Council Directive 2006/112/EC) are used to regulate food donation and food waste policy among member countries.

Although recent studies have focused on food waste mechanisms, handling food donation as a tool to improve sustainability has relatively been understudied. There is a systematic effort within the EU for regulating food donation and food policy in general terms, while the lack of strict and integrative regulations as well as the consolidation of data are obvious. Furthermore, there are no legal sanctions for food authorities that are in charge of food donation. Providing sustainability is mainly related to food donation, and this should be analysed with impacts that contribute to each dimension. It is known that the EU attempts to take actual measurements towards food waste prevention and food donation since 2012. Although there is an obligation to keep the data on food donation in EU member states, the implementation of this issue often remains insufficient. For this aim, quantitative data and predictions should systematically be arranged. For instance, the latest studies regarding food waste were published as part of FUSIONS Project by the EU (2012 – 2016) and REFRESH Project (2015-2019), which underline the lack of consolidation of data in the policy-making process (REFRESH, 2019).

This article compiles selected EU reports to analyse food donation in light of sustainability theories. It is aimed to identify how well three sustainability dimensions (social, environmental, and economic) are taken into account in the design of food policy and food donation tools. In selected EU reports, it is observed

[1] The food policy for the EU is designed under the common agricultural policy (CAP), which does not entirely answer to the food-related policies such as food donation, food waste management. Food donation is mentioned in two pillars of the CAP. The first includes income support and market management measures; the second focuses on rural development (Garske et al, 2020). Some authors discussed the importance of a common food policy for the EU in terms of its sustainability gains (Schutter et al., 2020).

that experts and representatives from different non-governmental organizations actively participate in the policy-making process, but these expert councils' representation problem is controversial. Due to the fact that the EU attempts not to conflict with market interests, some dimensions of sustainability, especially the environmental dimension of sustainability is relatively neglected because food donation is often regarded with its social and economic sustainability gains, while it is estimated environmental gains are analysed in scope of food waste management. The reason behind choosing these reports is that they are a reflection of current discussions and problematic issues on food policy and food donations. More specifically, this study attempts to exhibit how the EU evaluates the actual policy and how well three sustainability dimensions (social, environmental, and economic) are taken into account in the policy-making process of the EU. These selected documents on food donation are analysed as follows:

- European Commission (2012). The document of Advisory Group on the Food Chain, Animal and Plant Health– Working Group on Food Losses and Food Waste
- European Commission (2014a) Impact Assessment of Food Waste to Complete Swd Regarding the Review of EU Waste Management Targets.
- European Commission (2014b). Ad hoc meeting with stakeholders on the possible development of EU guidance to facilitate food donation.
- European Commission (2015). Carbon footprint of Food Waste
- European Commission Working Document (2017): EU Guideline on Food Donation

EU Pilot Project on food redistribution (2020). Redistribution of surplus food: Examples of practices in the Member States EU Platform on Food Losses and Food Waste

Based on above documents, this study takes Multi-Criteria Analysis (MCA) as a theoretical framework, since the effect of food donation is not unidimensional and requires a complex approach that penetrates all dimensions of sustainability. Addressing these complexities, this study will first analyse sustainability theories and later on, these are analysed with the selected EU reports and draws a conclusion regarding the appropriation of sustainability assessment for an ideal policy design.

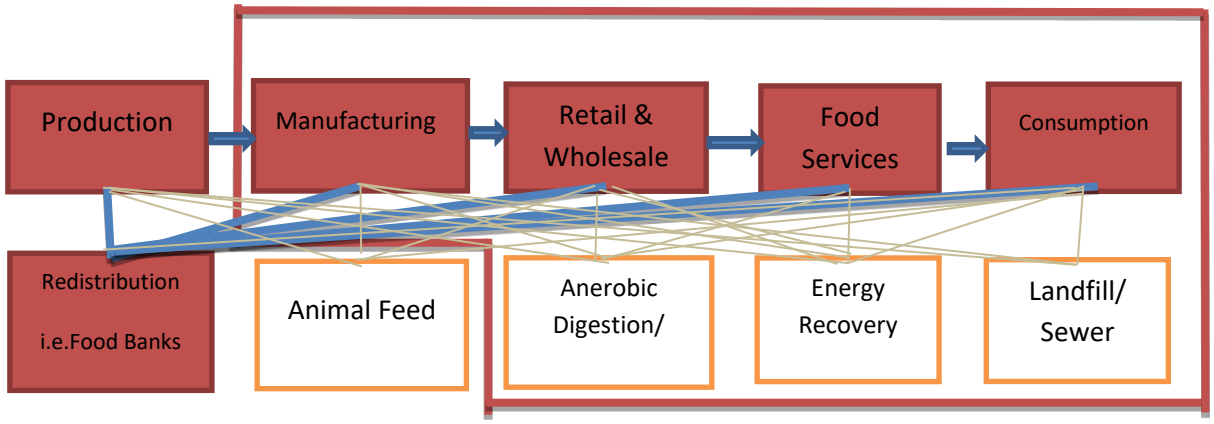
1. SUSTAINABILITY AND FOOD DONATION

The sustainability concept refers to enable all the people in the world to lead healthy and economically secure lives without damaging the environment and without jeopardizing the future of people and the planet (Johnston et al., 2007: 62). Sustainability aims to provide basic human needs by preserving the planet's life-support system (Kates et al., 2001:641). Sustainability assessment, an instrument to provide a sustainable planet, is a tool to assist decision-makers who attempt to produce policies to make society more sustainable (Devuyst et al., 2001:9). As Munier (2005:13) emphasized, "Sustainability is a process involving people, institutions, natural resources, and the environment."

Food donation means donating surplus food, which is edible for humans and animals, through food banks or food charities. Many countries in the world have designed food policy by utilizing food donation to increase sustainability. Food donations can be done through food banks especially for non-perishable foods such as pasta, cereals, tinned meat and is a great mechanism to eliminate food waste and costs as well as struggling against hunger and food poverty (O'Connor et al., 2014). France is the most prominent example of food donation due to the country's regulations starting to implement in 2016. Based on the regulations, a retail unit exceeding 400 m2 has to redistribute its surplus food to charities. If surplus food is not suitable for human consumption, it has to be used for animal feed. As a final choice in the usage of surplus food, which is neither edible for humans nor animals, it is used for composting or anaerobic digestion (Albizzati et al., 2019; Mourad, 2015). In Italy, surplus food reaches 181,400 t per annum, while 35% of these are donated to food banks/charitable organizations, 32,2% to conferral to waste management companies, and 20% are sold to secondary markets. The national consultative round table was established in 2016 to discuss issues on food waste management including food donation; and the national food waste prevention plan shows the food donation as one of the most important mechanisms (European Commission, 2019). However, a significant number of products is disposed of as waste (91.5%), while food donations to food banks and charities remains at 7.5%. (Garrone et al., 2014: 1467-9).

Although there is no definite data regarding food waste around the world, it is estimated that "around one-third of the food produced globally is lost or wasted along the food chain, from production to consumption" (Gustavsson et al., 2011: 7). The sustainability assessment of food donation mainly aims to identify food waste disposal and food prevention phase, shown in Figure 1. The use of food for redistribution through food banks (for human consumption) and various organizations (for animal-feed) constitutes the first stage in the food chain before its transformation to other resources. The area within the circle refers to the most used methods for the transformation of food such as composting, energy recovery, and landfilling, while the waste prevention process such as food banks focusing on utilizing edible food is preferred less than other methods. This process also draws attention to our primary aim to measure food donation benefits for sustainability goals.

Figure 1. Food Chain



(Edible Food Part for Food Donation)

Source: European Commission (2014a: 9)

The primary goals of food donation are to reduce existing food disposal, feed people in need, and feed livestock. If these goals cannot be fulfilled, the transition to composting, energy recovery and landfilling are regarded as final alternatives that can be considered beneficial. However, it is expected that there should be a preference over food donation rather than utilizing waste disposal methods because it is widely known that food donation is less costly and more sustainable. Furthermore, food donation also covers different types of sustainability issues, such as reducing poverty in society and creating social businesses through constructed social institutions (FAO, 2018). On average, food waste at the consumption process costs approximately US$1,600 a year for a family of four in the U. S. and around £680 in the UK. (WRAP, n.d.). Data shows how food waste can be costly for average households.

There are many advantages of food donation. Food donation can eliminate harmful effects of global warming such as decreasing the amount of the Co2, MJ, and GHG emissions (Schneider, 2013), fighting hunger (Schneider, 2008: x-7), increasing the reputation of food retailers with the label "environment-friendly" (Giuseppe et al., 2014: 1309; Tarasuk and Eakin, 2003: 178). Furthermore, a less costly resource for feeding animals (Cicatiello et al., 2016) and tax benefits for donors (Colorado Food Systems, 2015) are secondary benefits of food donation. However, there are also some drawbacks to food donation, mostly related to concerns about food distribution. For instance, food hygiene problems may occur in the lack of regulations (Schneider, 2008), there may be confusion about the expiry or consumption date, a profit loss perceived by some restaurants that may prefer discarding, cost problems due to transportation of food and distribution networks (Giuseppe et al., 2014).

Based on these considerations, a comparison between the pros and cons of food donation shown in Table 1 leads policymakers to a preference over the monetary effects of non-market goods. As seen, the pros of food donation exceed cons, and these mainly reflect on the social and economic sustainability of food donation.

Table 1. Pros and Cons of the Food Donation

Pros	Cons
Food donation can reduce the amount of the Co2, MJ and GHG emissions and provide savings over landfilling or composting. This reduction leads a reduced impact of global warming (Schneider, 2013)	The question of how the food hygiene will be provided may remain uncertain in the lack of regulations (Schneider, 2008).
Food donation delivers food to hungry people. Many food charities or organization aim to serve collected food poor people (Schneider, 2008: x-7).	There may be confusion about the expiry or consumption date (Giuseppe et al., 2014).
Food donation provides reputation such as "environmentally friendly" to the big companies, restaurants, supermarkets and food retailers in the eyes of customers. This increases the *consumer fidelity* and *good corporate citizenship* (Giuseppe et al.,2014:1309; Tarasuk and Eakin, 2003 :178).	Food donation can be considered as a profit loss by some restaurants and food disposal is discarded instead of giving it away (Griffin et al.2009 :79).
Food donation can provide a new nutrition resource which is less costly for feeding animals (Cicatiello et al., 2016).	Food donation can be costly due to mainly transportation of food and distribution networks from supermarkets or food retails to the food charities or food banks. This costs (Giuseppe et al., 2014:1309)
Food donation as a part of food prevention phase provides less use of traditional waste disposal. It means less cost for a country and more sustainable environment (Tarasuk and Eakin, 2003).	VAT practice on food donation as a deterring cost from donating (Deloitte, 2014:70).
Tax benefits for donors of food donation can be considered as an advantage (Colorado Food Systems, 2015).	
Food donation as an alternative sustainability approach helps to construct new social and economic institutions for sustainable consumption. This results in community-building and social cohesion within social network in addition to creating new channels for alternative values about society, environment and the economy (Seyfang, 2006: 393).	

Source: Author's Compilation

2. THEORETICAL FRAMEWORK

For a good measurement of sustainability, Ness et al. (2007) outline a framework for sustainability assessment consisting of three categories: indicators and indices, product-related assessment mechanisms, and integrated assessment, which are a bunch of mechanisms used for a policy change or project implementation. Assessing the sustainability impact of food donation may require taking an integrated assessment to answer the complexities of food donation, instead of handling specific indicators and product-related assessment tools since indicators may remain limited to adopt a holistic perspective due to its quantitative nature. Similarly, a product-related assessment may also remain insufficient due to its concentration on environmental and economic issues, while it cannot be integrated with societal systems (Ness et al., 2007: 499-503). Therefore, this study is devoted to explaining why Multi-Criteria Analysis (MCA) is the most appropriate method for food donation by discussing the advantages and disadvantages of Cost-Benefit Analysis (CBA) and Revealed Preference Methods.

2.1. Sustainability Dimensions

There are three types of sustainability dimensions to analyse food donation in terms of sustainability assessment. Figure 2 displays the economic, environmental, and social dimensions of sustainability on food donation. Social sustainability consists of poverty reduction and solidarity among people; environmental sustainability refers to reduced CO2 and GHG emissions for decreasing the effect of climate change and protection of natural capital for future generations, and economic sustainability means a less costly alternative for waste disposal, utilizing surplus food and prevention of waste. One would conclude that the level of sustainability is moderate since the short-term effects (*e.g., fighting with hunger)* and long-term effects *(e.g., decreasing climate change and waste prevention)* exist. The dichotomy is used for this study to put it more concrete, weak, and strong sustainability. Weak sustainability reflects an interchangeable nature of the three dimensions of capital stocks. In comparison, strong sustainability implies a complementary feature between economic and environmental capital stocks of the three sustainability dimensions.

Figure 2. The three sustainability dimensions for food donation

Source: Author's Compilation

In *weak sustainability,* the devolution of total wealth to the future is the primary issue. In *strong sustainability,* protecting and enhancing natural capital is very important, and any decrease in natural capital cannot be compensated with an increase in human capital (Hackett and Dissanayake, 2011: 364). The features of sustainability theories are incredibly connected with the indicators of sustainability. For instance, the indicators of weak sustainability are green GDP, Genuine Savings, ISEW, and GPI, while strong sustainability measures are ecological footprint and Net Primary Product (ibid: 373). Therefore, an ideal sustainability assessment of food donation should be in line with *strong sustainability*. The fundamental concern of policymakers and governments on food donation should be the protection of natural assets, hindering environmental threats to enhance sustainability. In addition, strong sustainability is less concentrated on financial issues as consistent with a food donation. European Commission's Impact Assessment of Food Waste (2014) offers several options to measure sustainability. If only two policy options are taken (15% and 30% targets), implementation costs, financial savings from reduced waste management costs, climate and other environmental benefits and value of food waste saved doubled from 15% to 30% in all measurements (p.62). Though food waste cannot be considered equivalent to food donation since it also covers inedible food, it may provide a clue to considering the potential of food

donation. Overall, the aim of sustainability assessment on food donation should focus on how well a policy design penetrates all sustainability dimensions with appropriate and fruitful policy outcomes.

2.2. Methods for Sustainability Assessment

This part has been devoted to analyzing existing sustainability methods for food donation. The first step for sustainability assessment is monetizing the effects to evaluate costs and benefits for food donation. One may think that food donation impacts cannot be monetized since it is related to public health and has no economic value. However, as the Food and Agriculture Organization of the United Nations (FAO, 2013: 9) emphasized, food wastage can be monetized through the monetization of inputs of unpriced natural resources to food supply chains. In addition, there will also be the welfare costs related to the loss of natural resources and ecosystem services. It also calculates the social costs of food wastage, which exceeds the direct market price of the lost produce.

In a similar vein, food donation can also be monetized beyond its economic value. The impacts on food donation can easily be observed in terms of its social costs, derived from the food sector's environmental and social externalities. Thus, the consumption of natural resources through food donations can be monetized, taking social costs into account. Non-market goods can be monetized through revealed preference methods, which consist of hedonic price method, travel cost method, averting behavior and cost of illness, to estimate non-market impacts by following market conditions and actual behavior (Pearce et al., 2006: 92). Some of the revealed preference methods may be beneficial for food donation due to their focus on individual or household behavior. However, only the cost of illness is congruent with food donation since this method concentrates on social impacts rather than individualistic impacts and examines the social provision of health services (Pearce et al., 2006: 92). Although one may consider food donation is not in relation to individual benefit, there are several reasons to consider the effect of food donation on people's health. For instance, food donation will decrease greenhouse gas (GHG), and CO2 emissions related to global warming, influencing individuals' health in the long term. Therefore, this effect may tend people to consider *'costs to be reluctant'* for food donation.

Cost-Benefit Analysis (CBA) is another mechanism designed to examine whether total benefits exceed the total opportunity cost of consumed resources to arrange a feasible project. When the social cost exceeds social benefits, and the scheme should be rejected. The most important point is that the pros and cons of food donation should be concerned with social and environmental sustainability dimensions to provide an ideal sustainability assessment. In addition to these sustainability dimensions, it is important to note that food donation created a different sustainability type, which mainly implies social sustainability. For instance, Schneider and Wassermann (2005) underline that social businesses are created in Austria for food donation. Accordingly, a distribution network is constructed and delivers products to the people in need for free through volunteers.

In this respect, newly constructed social coffee shops and social supermarkets deliver products and provide communication among people. Thus, the network attempts to construct a close relationship among locals besides fighting hunger (Schneider, 2013: 758). Nevertheless, CBA may not be a sufficient mechanism for food donation due to several reasons. First of all, sustainability has three dimensions: competing interest groups, conflicting goals, and different types of information, while CBA cannot observe multi-dimensional problems. Second, it is not possible to understand some uncertainties in the behavior of people for food donation. It is known that the same conditions and advantages/disadvantages can create different results in different countries. For instance, food donations can also be related to the educational and cultural backgrounds of people. Furthermore, CBA's overemphasis on economic dimension over social and environmental dimensions can be considered CBA is not a correct method to penetrate the problem. Finally, CBA is not suitable to measure intangible impacts (Beria et al., 2012: 138).

The last method for food policy design based on food donation is that Multi-Criteria Approach (MCA). This approach should be considered for analyzing non-market goods in monetary terms to identify uncertainties and govern multi-dimensional complexities through qualitative costs and benefits. The MCA approach is based on the identification of several alternatives, which can be interpreted in terms of criteria that are substantial for the model. The consequence consists of a ranking of the alternatives. The type of criteria chosen is essential because it determines risk assessment or environmental impact assessment (Morrissey and Browne, 2004: 301-3).

According to Beria et al. (2012:148), the strengths of MCA are democracy, participation, legitimacy, the use of qualitative measures, while its weaknesses are potential ambiguity, arbitrariness, subjectivity, risk of double counting, lack of consistency. The most important benefit of MCA for sustainability assessment is holistic evaluation for both quantitative and qualitative criteria, and decision-makers from different perspectives participate in the policymaking process (Milutinovic et al., 2014). Due to the fact that multidimensionality is embedded in the sustainability concept, the use of multi-criteria approach is quite common in sustainability studies. Therefore, one can claim that sustainability assessment consists of MCA (Janeiro and Patel, 2015) since it attempts to find solutions among different criteria and indicators (Balteiro et al., 2017). The MCA is mainly organized into the following phases (Beria et al., 2012: 138):

- *Phase 1. Definition of the projects or actions to be judged.*
- *Phase 2. Definition of judgment criteria.*
- *Phase 3. Analysis of the impacts of the actions.*
- *Phase 4. Judgment of the effects of the actions in terms of each of the selected criteria.*
- *Phase 5. Aggregation of judgments.*

Based on these phases of the MCA, this study handles food donation to examine the applicability of the MCA as the ideal sustainability assessment of food donation. Although the MCA weights across all three sustainability dimensions and has *strong sustainability*, the ideal sustainability assessment is often far away from the actual sustainability assessment. To find out how far the ideal sustainability assessment differs from the actual policy assessment, selected EU documents on food donation is to be analysed in the following section.

3. ANALYSIS

Based on Beria et al.'s (2012) five phases to apply the MCA, this section examines selected European Commission reports on food donation. The EU explains the aims of the food donation guideline as "facilitating compliance of providers and recipients of surplus food via legal requirements in regulatory framework" and "promoting common interpretation by regulatory authorities" (European Commission, 2019). Based on these objectives, one may think that coherence among member states and standardization in regulatory frameworks are key to fulfilling the aims of food donation. Different practices towards food donation are quite common among member states. For instance, voluntary agreements between food banks and the retail sector are implemented in some member states (i.e., the UK, Norway, Portugal, Bulgaria), while some member states do not even include food donation in their legislation (i.e., Hungary, Latvia, and the Czech Republic) (European Commission, 2019). In addition, it is observed that some countries support food organizations in financial means, while others do not have such legislation. Given that food banks and food charities require financial means as NGOs, support of the national and local institutions for those is key. Retail stores should collaborate with food banks and NGOs which are responsible for taking surplus food from retail stores and redistributing it along with the support of national governments. In other words, cooperation and communication among organizations are crucial for the well-designed allocation of donated food (Lovrenčić et al., 2017). Different practices on food donation among members states demonstrate the standardization need of the EU for regulatory frameworks under common food policy.

As Beria et al. (2012) suggested, there are five phases that policymakers need to follow besides taking MCA. In Phase 1, the EU should appropriately define projects and actions to be judged. For this aim, the principal responsibility is choosing stakeholders. The types of stakeholders can be considered producers, consumers, and retailers and NGOs that pursue their interests in food donation. The topics mentioned in the advisory meetings are "donation of surplus food to food banks, date labeling, safe use of former foodstuffs in animal feed, short food supply chains, bio-energy, social innovation in support of food waste reduction" (European Commission, 2012a). While these issues are discussed, stakeholders may not see their interests in food donation. Therefore, they may not be enthusiastic about participating in the policy-making process (Esnouf et al., 2013:2). Besides, companies may be reluctant due to rising costs on new tools needed for food donation and food waste tools. The European Commission declared the EU's transition to a circular economy model in 2015; however, the key point of this transition is to keep the

balance between all levels by integrating multi-stakeholders into the decision-making process (Dora et al.,2020). Table 2 indicates which stakeholders participated the last meeting on food waste in the EU.

Table 2. The List of Stakeholders in the Actual Policy in 2019

Public entities	All EU Member States EU Committee of the Regions (CoR) European Economic and Social Committee (EESC) Food and Agriculture Organisation (FAO) Organisation for Economic Co-operation and Development (OECD) United Nations Environment Programme (UN Environment)
Private sector organisations/NGOs	Asociación Española de Codificación Comercial (AECOC), International Association of Plant Bakers AISBL, The European Consumer Organisation (BEUC), BOROUME, CITY OF MILAN, COGECA, COPA, European Crop Protection Association (ECPA), European Cold Storage and Logistics Association (ECSLA), European Dairy Association (EDA), European Community of Consumer Co-operatives (EURO COOP), European Former Foodstuff Processors Association (EFFPA), European Feed Manufacturers Federation (FEFAC), European Fruit and Vegetables Trade Association (EUCOFEL), EUROCOMMERCE, European Potato Trade Association (EUROPATAT) European Food Banks Federation (FEBA), FOODCLOUD,FOODDRINKEUROPE, FOODSERVICEEUROPE, FoodWIN, European Fresh Produce Association (FRESHFEL), FEEDBACK GLOBAL, Health Care Without Harm Europe (HCWH),Hungarian Food Bank Association (HFBA), Hospitality Europe (HOTREC), International Air Transport Association (IATA), Independent Retail Europe, LES RESTAURANTS DU COEUR OSTFOLD RESEARCH, Nofima and Matvett Consortium, RISE RESEARCH INSTITUTES OF SWEDEN AB, SLOW FOOD, STOP WASTING FOOD MOVEMENT DENMARK, SMEunited, Wageningen University & Research, Waste and Resource Action Programme (WRAP), ZERO WASTE SCOTLAND.
Observers	EFTA countries.

Source: Members of the EU Platform on Food Losses and Food Waste (European Commission, 2019).

Regarding stakeholders, it is observed that representatives from different interest groups actively participate in the meetings of the EU Platform. It reflects the EU's supportive stand for food banks, while the previous meetings suffered from the lack of these organizations (see European Commission Report, 2012 and 2014). As seen in Table 2, more than 40 stakeholders, which participated in the deliberation process, mainly demonstrated the EU's penetration on all sustainability dimensions. In particular, compared to previous meetings held in 2014, the number of environmental and social stakeholders has been increased. Thus, recent commission reports show that the representation problem of stakeholders has greatly been eliminated by the EU.

In Phase 2, it is aimed to define the *judgment criteria* to make the decision-making process more concrete. Due to the lack of consolidated data on food donation, existing data help to constitute judgment criteria for the effect of food donation. In the EU, 88 million tonnes food are wasted per year, while associated costs consist of 143 billion euro (European Commission, 2017). In terms of its costs to the environment, based on 2006 data, a total of 1 570 tonnes of food is wasted per year in Europe. The total carbon footprint of the wasted food is equivalent to 170,000,000 tonnes of CO2 equivalent, and food waste generates approximately 8% of global greenhouse gas (GHG) emissions (FUSIONS, 2016; FAO, 2015) . In other words, food waste brings a high environmental cost with little to no benefit (European Commission, 2015), and the *judgment criteria.* of decision-makers can be made based on this data.

In Phase 3, European Commission takes the European Commission's Impact Assessment of Food Waste (2014:27), emphasized GHG emissions; for instance, a 15% reduction in food waste represents a GHG reduction of between 0.5% and 1%. However, surplus food production implies edible food that causes

a high environmental cost, deriving from the use of energy, natural resources *(e.g., water)*, and gas emissions into the atmosphere. The estimated number for thrown food is 89 million in Europe, producing 170 million tonnes of CO2 per year. In addition, the environmental damage caused by producing food that is not used should be considered the cost of processing and disposing of what is wasted and the loss of revenue for producer undertakings (European Parliament, 2011: 11-2). A new project called "the EU pilot project" has recently been published to analyse and eliminate existing barriers towards food redistribution by comparing member states in terms of their practices and regulations on food redistribution (European Commission, 2020).

In Phase 4, policymakers should evaluate selected data and stakeholders' interests in food donation. For instance, *FoodDrinkEurope* points to the possible extension of product expirations date exempt from *"best before"* labeling with reference to the importance of food hygiene/food safety. While these economic and social agents were dominant in the previous meetings, new stakeholders such as FEBA emphasized that it distributed 535,000 tons of food to 6,1 million people. Nevertheless, this amount was not even close to generated food waste annually in the EU (European Commission, 2017a:2). New stakeholders brought new discussion topics that reflect both environmental and social dimensions of sustainability. However, the EU still faces difficulties in integrating food policy, which is especially observed in the headline of *"the complement but not duplicate national/sectorial guidance"* (European Commission, 2017a:4). In other words, the EU is aware that liability and primary responsibilities on food donation (or food policy) are in national authorities (art.17 of General Food Law) while it attempts to create complementary policies.

Table 3. Pros and Cons in the Actual Policy of the EU

Pros	**Cons**
Food donation helps to prevent hunger	Food donation can be troublesome if donors do not take the required responsibilities in food safety. It is important that expiry date, labeling, and suitable storage conditions. National authorities often regulate these instead of the EU.
Food donation creates a perception of how to promote a scientific and civic culture guided by the principles of sustainability and solidarity.	The delivery of surplus food in a healthy condition to the recipients is substantial. It is not easy to regulate standardized conditions for food donation in the lack of food hygiene.
Food donation contributes to creating resource-efficient agriculture.	The imposition of VAT on food donation is a complicated process due to the different implementations of EU member countries. While little or no VAT is paid in certain member states, some member states have no specific VAT regulation on food donation (European Commission, 2017). The situation inhibits the extensive use of surplus food on donations.
	Due to the lack of legislation, there is an ambiguity in the food chain hierarchy. At the same time, some members have implemented economic incentives that do not follow the waste management hierarchy, which creates economically advantageous conditions for management options lower in the hierarchy. Currently, the EU guidelines place food redistribution as an integral part of food waste prevention. This problematic situation may lead to composting or landfilling without considering food donation.

Source: A compilation of selected European Union Commission reports

In Commission meetings, stakeholders discussed the advantages and disadvantages of food donation from their perspectives. Overall, it is observed that the drawbacks of food donation outweigh its advantages, and this is related to the concentration on problematic areas on food donation rather than benefits already known by policymakers and stakeholders. The common agenda concentrates on the lack of regulations on food donation, and discussions focus more on the economic and social issues and less on the environmental dimensions of food donation. In other words, environmental sustainability is rarely emphasized (only climate change/GHG and Co2 emissions, superficially). This analysis is important to reveal which sustainability dimensions are more salient and which criteria of each sustainability dimension is mentioned in the policy paper. The neglect of the environmental dimension is obvious in the Commission's policy documents since there is less emphasis on food donation's environmental gains when compared to its social and economic gains. Instead, the social dimension of sustainability (preventing hunger, consumption date, health, etc.) of food donation is frequently highlighted. For instance, human consumption is the best destination for surplus food (European Commission, 2017a). However, acquisitions from GHG and Co2 emissions are not extensively discussed in any of the chosen EU reports.

It is also important to note that economic sanctions are not well-designed for food authorities that neglect food donation. In other words, the plans regarding food donation are not vigorously implemented in Commission reports, while the EU attempts to regulate the framework for surplus food to prevent health risks without economic stakeholders. Finally, Phase 5 consists of the aggregation of judgments and refers to how the EU can develop an integrated policy framework for food donations. Due to the fact that the EU does not have a distinct food policy for member states, there are some inconsistencies in the policy-making process. It is related to selecting stakeholders who represent a crucial point in food donation (see Table 2).

The criteria of each sustainability dimension shown in the selected Commission documents explicitly show that sustainability's economic and social dimensions are more salient than the environmental dimension. This finding may be related to the relationship between food and the environment, which is mostly considered 'waste,' and the environmental dimension of food is measured as waste disposal. In addition to the environmental dimension, it is also important to note that the social dimension is more salient than the economic dimension in the Commission documents. In this respect, examples for the social dimension of sustainability are food hygiene and poverty alleviation, while the economic dimension of sustainability is generally evaluated in the scope of VAT legislation. Overall, findings confirm that food donation's social and economic sustainability dimensions are discussed more than the environmental sustainability dimension in Commission reports since food donation may not be considered a good option for the environment by policymakers. Instead, it seems policymakers rely more on waste disposal methods.

CONCLUSION

There are many ambiguities in food donation and food waste policy due to the lack of EU Common Food Policy. Therefore, the analysis of food donation has been held through the EU Guidelines on Food Donation and Commission Reports. In these reports, it is observed that the social and economic dimensions of sustainability are more salient than the environmental dimension of sustainability. In addition, economic interest groups are dominant in the ad-hoc deliberation processes. The environmental impacts of food donation are barely specified in terms of sustainability assessment. In contrast, regulation of food donours and receivers, date labeling, liability and responsibility of organizations/food banks are extensively written in the documents. Therefore, responsibility and traceability of food are the most discussed topics, while the details remain unclear in policy reports. This may be related to EU's unwillingness for a common food policy because liability and primary responsibilities on food donation (or food policy) are in national authorities (art.17 of General Food Law) and EU only sees itself as a complementary policies' makers.

Food donation is generally analysed with its social benefits on society while its environmental benefits are often neglected. This is likely related to choosing waste disposal as the easiest alternative because there is a great deal of waste management companies in European countries and changing existing system means profit loss of economic interest groups. Whereas the priority of food donation in the food waste hierarchy should be considered in the scope of different sustainability dimensions. For instance, while food donation eliminates costs for advanced food waste disposal *(composting & landfilling)*, it also

provides environmental benefits *(reduced CO2 and GHG emissions)* and social benefits *(e.g., solidarity and fighting with hunger)* and public health.

Based on the arguments of this study, it has been examined how food donations can be used to reach sustainability goals. Chosen stakeholders in the actual analysis reflect comprehensive dimensions of sustainability for food donation, while the ideal analysis suggests the inclusion of environmental NGOs. It is important to note that EU ad-hoc meetings held in 2014 comprised fewer environmental NGOs compared to EU Guidelines on Food Donation in 2017. On the other hand, the pros and cons of both analyses differ. The EU remains very technical in the actual analysis due to the ambiguity of the position of the EU. Because as a supranational organization, the EU attempts to regulate every detail of the legislative process while responsibilities and liability mainly remain on national authorities and organizations. In the ideal analysis, pros were more salient than cons, while the pros and cons remained slightly the same in the actual analysis. The reason behind this difference may be explained by the lack of enthusiasm in the actual analysis. The EU Member Countries are reluctant to constitute a common food policy since welfare policy is also not common. When food donation is considered as part of social welfare services, one can perceive the reason behind the distance of the EU to food policy and food donation.

In terms of sustainability dimensions, the emphasis of the actual analysis on food donation is on economic and social benefits, while ideal analysis penetrates all dimensions of sustainability. As a whole, food donation should be evaluated as an important way to fulfill our real aim (human consumption) for recovering food. Even though the benefits of food donation cannot solely be a solution itself, the aim should be recovered as much edible food as possible by providing food donation instead of preferring the other ways of food waste disposal directly. Fulfilling these targets, providing production and consumption of food with minimum waste, and increasing stakeholder awareness to overcome confusion on the freshness of food or labeling have to be implemented. In addition to food donation, there should also be limitations for food production and decreasing food waste for the sustainability of food. It seems there is no perfect transportation system or distribution network to recover existing edible food. A combination of different long-term preventative measures can dramatically reduce the amount of food waste. Therefore, the donation of edible food is one of the best examples to provide sustainability for all three dimensions of sustainability met–environmental, economic, and social.

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