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**ISSUE EXPANSION AND AGENDA SETTING IN THE EU:
THE CASE OF FOOD WASTE.**

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Introduction

The goal of this dissertation is to analyze the processes of issue specification, inclusion and expansion of the food waste issue and its growth as an urgent problem in the European awareness for waste and resource sustainability, in the context of *EU2020 Strategy* flagship initiative for resource efficiency, considering the main features that have supported this process.

So far the analysis of the existing literature has focused on two main subjects: *food waste* as a growing worldwide problem with particular voice and relevance in Europe and *agenda setting* in the European Union, as part of the policy cycle that involved the issue of food waste in the resource efficiency strategy that has included food waste as one of its pillars.

As a matter of fact, we are now facing a crisis not only at financial level but especially in real economy, and globalization is not following the expected route. With 89 million tones of wasted food per year only in the EU27, our present global agricultural paradigm includes almost one billion people in the world that is undernourished, but is wasted enough food to feed three billion people spare. Latest years have seen the European Union getting increasingly involved in the search for alternative solutions to this problem, thus triggering a path to drive food waste into its formal agenda.

My explanandum is the analysis of the processes that have brought food waste to be incorporated among resource efficiency goals of the European agenda, being analyzed in the *Roadmap to a Resource Efficient Europe* as part of the first two objectives: “Sustainable consumption and production” and “Turning waste into a resource”. Moreover I want to analyze current actions that the European Union is carrying on to provide common basis for a coordinate European action against food waste, like the FUSIONS project, as well as the ongoing projects on the sustainable food issue (where food waste is included) for its future inclusion in the European formal agenda.

The subject is timely: year 2014 has been proposed by the European Parliament as the “European year against food waste”, to spread the awareness among the whole European population and launch a coordinated action for prevention in the EU 27.

The European Commission is currently working on a “Communication on Sustainable Food”, which is expected to be outlined by November/December 2013.

This was not built in a day. Food recovery and donation programs and awareness raising campaigns have spread through Europe since the 1990s. Among the others, three of these programs have reached a higher voice at European level, becoming also among the main signatories of the *Joint declaration against food waste*, signed at the European Parliament in Brussels in October 2010. The first one is Italian, *Last Minute Market*, an initiative by Professor Andrea Segrè of the University of Bologna; the second one is the movement *Stop Spild af Mad* (i.e. Stop Wasting Food) by Selina Juul, from Denmark; finally the *Love Food Hate Waste* campaign by the British governmental Waste and Resources Action Programme (WRAP). These initiatives are considered as best practices for food waste prevention and food redistribution. Close to them, many more food recovery programs and awareness raising campaigns have spread among European MS in the last years, making possible for the EU to start a call for coordination and monitoring. Beside this, many IOs, NGOs and universities have contributed with studies and reports, to spread the awareness and advertize the existing actions against food waste.

The contribution of my thesis consists of a comprehensive account that explains the issue specification and expansion of the food waste issue in the European agenda, following its routes in the European Commission and in the European Parliament. The EU is here considered as one of the most suitable environment for this challenge, both from institutional and cultural point of views, especially in the context of the *EU2020 Strategy*.

The analysis was carried on using Princen’s works on agenda setting in the EU (Princen & Rhinard 2006¹, Princen 2009²) and Kingdon’s multiple streams theory (1984)³ as main theoretical framework; the goal of this thesis is to apply those theories on the concrete case of food waste in its early stages in EU policy making and in doing so start filling the gap about policy implications of food waste in the

¹ Princen, S. and Rhinard, M. (2006). *Crashing and Creeping: agenda setting dynamics in the European Union*. *Journal of European Public Policy* 13:7, pp. 1119-1132

² Princen S. (2009). *Agenda setting in the European Union*. United Kingdom: Palgrave Macmillian.

³ Kingdon J. W. (1984). *Agendas, Alternatives, and Public Policies* (second edition). New York: Longman.

literature about it, and also provide a new empirical case to reinforce the theoretical framework on different types of agenda setting processes (Princen & Rhinard 2006).

The empirical section has been elaborated through a deep documental analysis, which includes both EU policy documents and reports, and semi-structured interviews to the policy elite on food waste to investigate issue stages and the agenda setting process. The interviewed are some of the most powerful actors of this process, from in and outside the EU institutions, and are the keystone for defining the principal reasons for food waste growth as an emerging issue in Europe.

In detail, the thesis proceeds as follows. Chapter I explains the reference literature on policy cycle, main authors and framework theories and the one on food waste, which includes reports, studies and books on the subject. Chapter II provides a review on the theme contextualized in the European Union, considering the legislative and documental framework, explains data and implications of food waste in terms of impacts on health, environment, economics and society, and finally provides a picture of current dedicated initiatives and programs at national, European and global level. Chapter III shows the methodology used for the qualitative research, with main goals and schemes used for policy elite interviews. Chapter IV illustrates the empirical evidences of the case in study by using the aforementioned agenda setting theories, taking into consideration the results of the interviews. Chapter V exposes the conclusions reached through my research and the limitations of the thesis.

Chapter I - Framework for the analysis

This chapter reviews the relevant literature which I based my work on. Firstly I will show the literature about the *agenda setting* process in general and contextualized in the European Union. Following, the one regarding *food waste* will be illustrated, including the main reports available, principal studies on the subjects and the main texts that explain its origins, causes, spread and implications.

1.1 Policy cycle and agenda setting

The main references adopted in this study to define the framework for the agenda setting process belong to the following main authors: S. Princen (*Agenda setting in the European Union*, 2009), S. Princen and M. Rhinard (*Crashing and Creeping: agenda setting dynamics in the European Union*, 2006), J. W. Kingdon (*Agendas, Alternatives, and Public Policies*, 1984), F. R. Baumgartner and B. D. Jones (*Agendas and Instability in American Politics*, 1993).

Public policy making can be considered to be a set of processes, including as first steps of the policy cycle the setting of the agenda and the specification of alternatives (Kingdon, 1984). Issues that become part of the agenda do not necessarily turn into policy, even if a set of alternatives has been provided.

Kingdon defines the agenda as “a list of subjects or problems to which government officials and people outside of government closely associated with those officials are paying some serious attention to at any given time” (Kingdon, 1984). Moreover, he asserts that “the agenda setting process narrows this set of conceivable subjects to the set that actually becomes the focus of attention” (Kingdon, 1984). So depending on who is giving the attention there are several kinds of agenda to be discerned.

Since Kingdon wrote referring to national agenda in the US, approaching to the EU process of agenda setting, due to its peculiarity, must be analyzed from a different perspective. Sebastiaan Princen’s recent work is particularly useful for this. In his book *Agenda setting in the European Union* he states that the way in which the EU makes policy differs greatly from domestic and US, combining elements of classic diplomacy and domestic political systems. These differences are important since they

determine the type of issues that the EU takes in consideration as well as the processes that lead to the formation of policy agenda (Princen, 2006).

Kingdon distinguishes between *governmental* and *decision* agenda: the first one includes all the subjects that the government or the organ in charge of is giving attention to. The second one is the so called *decision agenda*, “the list of subjects within the governmental agenda that are up for an active decision” (Kingdon, 1984). Another possible classification is the one that distinguish between *political agenda* (or formal), which includes the issues that are receiving some serious attention from decision-makers and for which policies will be made, and the *public agenda* (or systemic), including issues that receive attention by the public (Kingdon, 1995).

In the EU context actually, there is not such a great distinction between the different types of agenda, since public involvement in decision-making is very slight. What is relevant is which European venue (Council, Parliament, or Commission) is paying some attention to a certain issue.

A much interesting distinction is the one between types of agenda processes in the EU: *high politics* and *low politics* (Peterson and Bomberg, 1999; Caporaso and Keller, 1995; Hoffmann, 1966). Issues take the *high politics* route when they are placed in the agenda “from above” by political leaders in the European Council; this gives to the issues political relevance and raises their place in the agenda. When they are placed “from below” by experts of Commission Expert Groups or Council Working Parties or “epistemic communities”, they take the *low politics* route, which is more technocratic and might give less relevance to the issues.

But what is an issue? It can be defined as “a conflict between two or more identifiable groups over procedural or substantive matters relating to the distribution of positions and resources” (Cobb and Elder, 1972). Considering an international context, Mansbach and Vasquez (1981) identify two sources of issues. An issue can both arise from the interests and activities of political actors or from the international environment in which states operate. The first case is an evolved theory from the second one, assuming that issue formation is internal to the political process, more than mainly outside-driven (traditional theory in international relations), and actually explains political construction of issues at EU level.

To explain how issues arise and evolve Rochefort and Cobb (1994) developed the four stages of “issue career” that deals with the high or low politics route of an issue:

1. **Issue initiation** deals with the starting point of an issue in terms of venues, events, actors that contributed to its raise.
2. **Issue specification** deals with the advance elaboration of a general issue into a set of specific proposals. This is strictly connected with the framing process, which depends on the venue it is discussed in (Baumgartner and Jones, 1993). In *high politics* route the research for solutions is delegated to lower level institutions, while the upper level ones establish a common frame. In *low politics* route issue specification is the result of research and debate among the different groups.
3. **Issue expansion** describes the way issues are moved beyond the initial actors in specific venues to a wider set of participants. In *high politics* route issues go from upper to lower level institutions with power to adopt formal decisions. In the *low politics route*, issue expansion takes place toward the higher level institutions that eventually have to decide on proposals.
4. **Issue entrance** occurs when the issue becomes part of the EU formal agenda, usually in a different venue from where it started its route.

Here is a summary of the two routes and relative issue careers:

| Stage in issue career | High politics route | Low politics route |
|-----------------------|---|--|
| Initiation | By political leaders because of politically salient event. | Out of professional concerns in epistemic communities. |
| Specification | Formulation of political consensus on an EU response in the European Council. | Formulation of specific and technical policy proposals in Expert Groups and Working Parties. |
| Expansion | Toward lower levels of decision-making in the EU. | Toward higher levels of decision-making in the EU. |
| Entrance | By creating political momentum. | By gradually building impetus. |

Table 1: Characteristics of the two agenda setting routes. Source: Princen, S. and Rhinard, M. (2006).

Obviously the two routes can show in modified forms, as pointed out by Princen and Rhinard (2006). Agenda setting processes around certain issues can occur somewhere in between the *high* and *low politics* routes; for instance, with issues being initiated at the intermediate level of decision-making by permanent representatives. Issues may also change character over time and thus lead to changing agenda dynamics: an issue may originate as a *low politics* issue, but suddenly gain political momentum due to a focusing event or convergence of thinking at the *high politics* level, or vice versa. Finally, the two processes might be unfolding simultaneously (or nearly so), each having a reciprocal effect on the other one. Issue initiation may occur primarily through the *high politics* route, for instance, while issue specification is influenced more by *low politics* agenda dynamics. The paper under analysis outlines two examples to better illustrate the theoretical framework supplied:

1. **Anti-smoking policy:** an established policy issue that gradually became a crucial area for EU activity in anti-tobacco and cancer prevention policies. The issue has been fully supported by the European Commission with studies and policy measures (*low politics*) but the European Council role has been determinant in driving the issue up in the EU agenda (*high politics*).
2. **Bio-terrorism policy:** a new policy issue pushed by an exogenous shock (US anthrax attacks in 2001) that was immediately moved up in the EU agenda by the European Council (*high politics*). However policy communities and different units from both the Council and the Commission have already started to elaborate alternative solutions before the rise into the agenda (*low politics*).

As far as it concerns the presence of similar issues among domestic and international agendas and particularly in the European one, it can be explained thanks to the political activism of domestic groups that address to the EU level to achieve political objectives that they cannot achieve at domestic level. The EU, more than other international organizations, becomes then the fertile ground for the development of otherwise underestimated issues, given its supranational nature. In general, multi-level governance literature argues that the EU is far more likely to be chosen as arena for the development of policies by sub national governments and private actors, rather than the respective national governments (Princen 2009).

Developed in the peculiar context of US politics, Baumgartner and Jones's theory of *venue shopping* is particularly appropriate for the determination of the way in which issues are moved from one decision-making institution to another. It relies "more on the dual strategy of the presentation of an image and the search for a more receptive political venue" (Baumgartner and Jones, 1993). One of the reasons for moving domestic issues up to the European venue is the circumvention of domestic constraints: inclusion of new actors, obtainment of different outcomes that later could be taken back to the domestic political system in order to re-balance the status quo and create new policy options. In the "real life" of European policy making it is very difficult to distinguish between the different motives of venue shopping; actually EU institutions are active venues that also do support issues themselves by promoting initiatives and creating policy debates. The drive element that makes the EU as the most attractive venue for a political actor depends on what the institution can really do for the issue promoted (Princen, 2006).

Closely to the agenda-formation process, a set of *alternatives* is generated and considered by the executive organs, as a parallel process that will allow the officials to be able to select the set of conceivable alternative when needed. This process might not be subsequent to the rise of an issue into the decisional agenda but rather contemporary or even precedent. There are actually different simultaneous processes that develop independently but are strictly interconnected. By adapting the previous "garbage can model of organizational choice" (Cohen, March and Olsen, 1972), Kingdon has elaborated a new method to understand agenda setting in the federal government of the US. What was innovative about the original garbage can model, was its ability to disconnect problems, solutions and decision makers from each other, showing that also in this "organized anarchy", different outcomes of several independent streams can come up, and eventually connect under unpredictable conditions. Kingdon's method can actually be applied to any modern institution for decision making, considered as an organized anarchy, where the properties of problematic preferences, unclear technology, and fluid participation are included, just like in the original garbage can model. Separate streams flow through the organization each with its own route; they are largely independent, but linked together at critical junctures, and that link produces the greatest agenda change. Any

actor of the policy cycle could be involved in any of the streams, but in reality there are many specializations: for instance, academics and researchers are more likely to be involved in the policy stream, rather than in the politics stream. Moreover, actors might not be only a stimulus, but also a constraint. When the streams come together at critical times, a problem is recognized, a solution is available, the political climate makes the time right for change and the constraints do not prohibit action.

| Problem | Policy | Politics |
|--|---|---|
| <p>The problem stream shows how a problem captures the attention of policy makers and how people end up defining something as a problem as it gets their attention. How?</p> <p>Indicators. Routine monitoring or new studies can evidence a problem or its changes.</p> <p>Feedback. Programs and their implementation can reveal unaware problems.</p> <p>Focusing event. Crisis, disasters, personal experiences, diffusion of symbols can spread the awareness of a problem. Policy entrepreneurs affect attention to problems by highlighting some of these elements. Policy makers' attention to the problem should be long enough to open an opportunity window.</p> | <p>Generation of alternatives and proposals of solutions to existing problems by experts, academics, and parties representatives (policy community); ideas floats in an ideal "soup". Policy debates start to confront solutions. Policy entrepreneurs intervene to advocate for the proposals or the ideas they prefer. Like music, the selection process of ideas is dynamic and characterized by mutation and recombination of familiar concepts. The chances of an idea to survive are linked to some characteristics: technical feasibility of actual implementation, value acceptability, future constraints. Consensus among the policy community, familiarity with the solution, and the availability of alternatives are also critical.</p> | <p>The political stream is more an independent stream, but has a strong effect on the agenda.</p> <p>National mood Changes in public opinion, growth of social movements, election results.</p> <p>Organized political forces Degree of consensus among interests groups, political elites and parties. Ideological distribution.</p> <p>Role of government Change of administration or top personnel. Consensus building is also crucial, but to set some bandwagon effects the role of persuasion and bargaining are more important than in the policy stream.</p> |

Table 2: Summary of the elements of Kingdon’s multiple streams model. Source: self-elaboration.

When the conditions to push a given issue higher on the policy agenda are right, there is a so called *policy window*: it does remain open for a short time, as an unpredictable opening in the policy process. Opportunities pass if policy entrepreneurs who were trying to couple a solution to the hot problem or the propitious political situation are able to take the chance; otherwise they will have to wait for a new opportunity to come (Kingdon 1984).

1.2 Literature on food waste

The literature on food waste is quite various and complex. Scientific studies have been developed both by international organizations, national governments, universities and private sector associations. Common feature to all of them is the aim of quantification of the amount of food actually wasted, the effort in determining the causes of the waste and the suggestion of solutions to avoid it. There are however different problems in harmonizing the present literature on food waste, since basic concepts are still missing. Despite the presence of formal legal definition of waste and of what is included in, there is not a formal, internationally recognized definition of food waste. What is problematic is the lack of a common terminology in referring to the problem, together with a deficiency of internationally recognized definitions and too many different methodologies for measurement. For instance some studies use without distinction *food waste* and *food wastage*; even if the meanings are similar, the connotation is very different: *waste* implies disapproval and negativity, while *wastage* usually refers to a natural process like erosion, which is less upsetting. Neither there is a commonly employed terminology: for example, there is not a clear distinction between *food losses* and *food waste*. Even if according to the last FAO study⁴ the first one refers to the losses in the first stages of the food supply chain, while the latest relates to consumers' and retailers' behavior, not every study uses the same terminology in referring to the phenomena. Finally, data change substantially depending on the stage of the food chain considered: for instance, in DG Environment's study on food waste⁵ the amount of food waste per capita is calculated dividing the total amount of food waste of the entire food chain by the

⁴ Global food losses and food waste (2011)

⁵ Preparatory study on food waste across EU 27 (2010)

number of the EU27 inhabitants, instead of considering only the consumer level waste, notwithstanding the different sources of that waste.

Considering that, in this work the following definition is employed, being a blend of the existing ones: “Broadly speaking, food waste is composed of raw or cooked food materials and includes food loss before, during, or after meal preparation in the household, as well as food discarded in the process of manufacturing, distribution, retail and food service activities. It includes materials such as vegetable peelings, meat trimmings, and spoiled or excess ingredients or prepared food as well as bones, carcasses and organs” (Segrè, Gaiani 2012).

The aforementioned FAO’s most recent study, *Global food losses and food waste* (2011), is the most important and eminent source of information on global food waste at the moment, providing a reference for the European Commission and the European Parliament. The study was carried out to serve as a basis for the international congress *Save Food!*⁶, lately became a global awareness raising project. The results of the study highlight that 1,3 billion tons of food is wasted globally per year along the entire food chain, which accounts for one third of the food produced for human consumption. It also underlines how in medium-high income countries food is mainly lost at the consumption level, while in low-income countries the losses are to be found in early and middle stages of the food supply chain. Besides this, the most recent study about global food waste quantification was published in January 2013 by the Institution of Mechanical Engineers in the UK⁷. This study provides larger estimations, saying that 30-50%, which correspond to 1,2-2 billion tons of all food produced is wasted before being eaten. It also deeply analyzes the impacts of the waste in terms of land, water and energy, and explains how the waste is produced at each stage of the food supply chain.

National governments in France, Germany, the Netherlands and United Kingdom have turned their attention to this issue and launched studies. Each of these countries has launched specific studies to quantify the amount of food waste produced in their territory and to investigate the causes of that waste to start reducing

⁶ 16-17 May 2011, Dusseldorf, Germany

⁷ Global Food. Waste not, want not (2013)

it. In the Netherlands, the Ministry of Agriculture, Nature and Food Quality, in close cooperation with the Dutch Wageningen University and Research Centre⁸, has financed a study to estimate food waste in the Netherlands and start raising awareness in the country to change behaviors from producers to consumers⁹. The study provides also a basis for strengthening the national policy on sustainable food by inserting a target on food waste, and lists all the activities the Ministry is currently carrying on. As far as it concerns the United Kingdom, the governmental agency Waste and Resources Action Programme (WRAP) is the most advanced agency in the world for national studies in the field of waste; in the latest years it get extremely specialized in the study on food waste in the UK, thus producing very accurate reports on the subject. Among their credits in the research on food waste causes, there is the work on misunderstanding and misuse among consumers of date labels and storage guidance¹⁰, qualified as some of the main causes of food waste among consumers in the UK. The report shows how the majority of people is not aware about the difference between “best before” and “use by” label and also do not follow properly the storage guidance, thus throwing away food because of that.

Academic studies on food waste come mainly from agricultural and environmental faculties from many different countries in the world. In his work V. Smil (2002) proposes solutions to reduce inefficiencies in the food system for the reduction of harvest and post-harvest losses (ie. losses that occur at harvesting and close levels), denouncing how little has been done about it. A more recent work by Parfitt, Barthel and Macnaughton (2010) provides a clearer picture of the issue, considering terminological and methodological problems for the global estimation of post-harvest losses in developing countries and food waste in developed ones. They also claim that for high-income economies, consumer level food waste accounts for the greatest overall losses and advice behavioral change to reduce the waste in those countries.

⁸ Wageningen is a centre specialized in food waste research. It is also responsible for the creation of the FUSIONS project.

⁹ Ministry of Agriculture, Nature and Food Quality (2010). Fact Sheet: Food Waste in the Netherlands. <http://www.government.nl/issues/food-and-food-safety/sustainability>

¹⁰ WRAP: Consumer insight date labels and storage guidance (2011)

Among the contributions from private sector associations, the British institute Planet Retail¹¹ has provided an analysis of food waste in retail stores in the UK in terms of losses in revenues, proposing technology-based approaches to tackle the problem by optimizing order forecasts and using real-time inventory management systems.

Regarding the books on the subject, there are two texts that stand out for their contribution to assess the problem dimension and proposal of solutions for food waste prevention. The first one is *Transforming food waste into a resource* by Andrea Segrè and Silvia Gaiani (2012), a comprehensive manual about the dynamics of sources, consequences and solutions for food waste, which dedicates a deep analysis to the *Last Minute Market* initiative as a model of recovery and redistribution and also describes most of the current actions against food waste. Another text I have found very useful for my work is *Waste: Uncovering the global food scandal* by the British freelance writer Tristram Stuart (2009), where he analyses the phenomenon of food waste from a global point of view, considering the waste caused by our present food production and supply system, suggesting hypothetical solutions to the problem and describing realities where a solution has already been successfully implemented.

Transforming food waste into a resource reports exhaustive explanations of what food waste is, how it is a consequence of the history and evolution of our consumption paradigm, being the resulting outcome of an uncontrolled pattern of production and distribution of food, and of the misconsumption of food by households in developed countries. The book provides facts and figures about food waste in Europe, particularly in Italy and UK, Asia, the US and Africa, also considering the different socio-economic impacts that the problem creates in developing and developed areas. Close to the description of different international agreements on food standards, an analysis of current global food policies and legislation is provided, mostly focusing on US and European food policies. About European food waste policy and legislation, the book makes an excellent summary of EU framework on waste and food waste management. The authors also describe the current legislations and regulations on food waste in countries whose national governments

¹¹ Planet Retail is the leading provider of global retailing information, from news and analysis to market research and digital media.

have concretely started to take specific measures for the problem: Sweden, Ireland, Germany, the Netherlands, UK, Japan, India, and Brazil.

Besides this, a long part of the book is dedicated to awareness raising campaigns and food recovery and donation programs in the US and in Europe. Considering the US, there are many single local initiatives that do their best in their territory with remarkable results, but do not have national resonance. A rather different situation is the one of Europe, where many campaigns and programs have spread among many countries, being the UK the leader in this field, followed by Denmark, France and Italy. I will describe some of these campaigns in the next chapter.

Finally, different food waste prevention strategies and an analysis of food disposal solutions are provided, together with different policy recommendations, that refers to the ones provided by DG Environment's report¹². Lack of awareness, lack of knowledge on methods for avoiding food waste, date label confusion and inappropriate food waste disposals should be the targeted goals for better policies and awareness campaigns. The basic idea that follows the whole book is the *zero waste* principle, as a new comprehensive approach to resources and production.

Stuart's work also provides a deep analysis of data and stages of food waste, even if less academic and more descriptively detailed than the previous text, as he tells the story as a writer. His main contribution is the accurate description of Japan's successful Food Waste Recycling Law (2001), which obligated food businesses to recycle 48% of all their food waste by 2006. By 2005 the industry was recycling 59% of commercial and industrial food waste; the latest revision has established 66% as amount for 2012. It did work because it was completely dedicated to food waste recover, unlike other laws in US or Europe that generically refer to biodegradable waste. Close to this case, also Taiwan and South Korea are accredited as best practices in eco-legislation. In 2005 both countries approved laws that forbid food waste of any sort or provenience to be sent to landfills (firstly due to the lack of territory). These can be considered as perfect examples of how strong political decisions might be decisive for the reduction of this problem, also in Europe.

¹² Preparatory study on food waste in the EU27 (2010)

1.3 Research question

The previous paragraph has shown which approaches have predominated in the literature on food waste: definition and quantification of the problem, estimation of its impacts and studies on possible solutions. The research demonstrated that nothing has been done about food waste policy implications, which are actually quite relevant at the moment given the presence of current ongoing initiatives at European and global level.

Considering this, the present work aims at investigating which are the specific policy implications of food waste, considering as a framework for policy cycle the theories exposed in the first paragraph of this chapter. Main goal is to start filling the existing gap in the literature on food waste as an emerging policy issue and in doing so contributing to the established literature on agenda setting process with a new empirical case.

By summarizing the complete framework on the state of the issue in the European Union, the work will show the results of semi-structured interviews conducted to policy elite actors, together with the application of cited agenda setting theories, to see how the food waste issue collocates itself among the current theories and how it outlines a new empirical example suitable for those theories.

Chapter II - Context for food waste in Europe

Food waste is an issue that relies mainly on individual experiences. At least once in a lifetime everyone has heard the sentence “Don’t waste food!” or “Think about poor children in Africa!” while maybe unconsciously throwing away some food or leftovers. As a matter of fact, food is a fundamental part of every culture, but with the general increase in income level and food abundance in Western countries, misconsumption has prevailed and food has become almost taken for granted and often underrated. According to the most recent FAO study about one third of the global amount of food gets wasted. A general lack of consciousness of what and how people consume food, together with an inefficient and waster agricultural, productive and distributing systems are the main causes of this waste, a 360° problem with impacts in many different fields: waste management, environment, economics, food security, health, agriculture are all strongly affected by this problem. In parallel to the European Commission researches to provide a solution to this issue, some individuals decided to do something to start changing this cultural degeneration, finally getting to the European Parliament to spread the fight of this widespread problem.

The chapter presents the *Roadmap to a Resource Efficient Europe*, the document that contains all the goals and guidelines for Europe to become a sustainable economy by 2020, and the legislative framework for food waste management in the European Union. It also illustrates the problem of food waste, the data available on it and its social, economic, environmental indicators. Finally, current initiatives at local, EU and global level are presented, considering the interconnections among them.

2.1 EU 2020 and the *Roadmap to a Resource Efficient Europe*

Launched in 2010, *Europe 2020*¹³ is the European Union’s ten-year growth strategy, whose aim is to address the European economy’s growth according to three main *priorities*: make it a smarter, more sustainable and more inclusive economy by 2020. To achieve these ambitious results, five main *targets* have been strategically set: employment, education, research and innovation, social inclusion and poverty reduction, and climate change and energy sustainability. The strategy also includes

¹³ http://ec.europa.eu/europe2020/index_en.htm

seven *flagship initiatives*, one for each area belonging to the growth priorities, to achieve the targets. Those flagships provide a framework to address the EU and national authorities in supporting the *Europe 2020* priorities through interventions in key areas such as innovation, digital economy, employment, youth, industrial policy, poverty, and resource efficiency.

The **Roadmap to a Resource Efficient Europe**¹⁴ is one of the seven flagship initiative for the achievement of the priorities of the *EU 2020 Strategy*, classified under the sustainable growth priority, for a resource efficient, greener and more competitive European economy¹⁵. It outlines how Europe's economy must be transformed to become sustainable by 2050, since the current rate of resources utilization would need another planet to be sustained in the future. It proposes different ways to increase resource productivity and double economic growth from resources use and their environmental impact. It also illustrates areas where policy action can make a real difference, trying to create a map that helps policies to all go in the same direction.

These are the main goals illustrated:

- **Sustainable consumption and production**
- **Turning waste into a resource**
- Supporting research and innovation
- Environmentally harmful subsidies and getting the prices right

Food waste is essentially horizontal to the first two objectives. In the first one, it is more about consumers' attitudes and behaviors regarding environmental footprints of products and producers responsibility for the full-life cycle of products. The second objective concerns more the use of solid waste, as on average only 40% of it is re-used or recycled, which in the case of organic waste is particularly serious. Food waste also gets into the *food safety* basic principle based on framework legislation such as General Food Law, the Food Hygiene package but also according to legislation related to animal by-products, animal health, food information, and official controls.

¹⁴ COM(2011) 571

¹⁵ http://ec.europa.eu/resource-efficient-europe/index_en.htm

Key resources are analyzed from a life-cycle and value-chain perspective. Nutrition, housing and mobility are the sectors responsible for 70-80% of all environmental impacts; actions in these areas are proposed to complement existing measures. In the case of nutrition, it is estimated that the food and drink value chain in the EU alone causes 17% of direct GHG emissions and 28% of material resource use in Europe. If farmers, the food industry, retailers and consumers were able to address their choices of production and consumption in a much sustainable way, the Europe would be able to reduce food waste, thus contributing to improve resource efficiency and food security at global level. The *Resource Efficiency Roadmap* provides a framework in which future actions can be designed and implemented coherently. It sets out a vision for the structural and technological change needed up to 2050, with primary goals to be reached by 2020 to establish the right path. Close to the roadmap, there are other EU documents that complete the EU efforts addressed to food waste minimization that will be explained in the following table in chronological order.

| Name | Type of EU document (general) | Contents concerning food waste |
|--|--|---|
| <i>GREEN PAPER On the management of bio-waste in the European Union</i> ¹⁶ | Official discussion document released by the European Commission to stimulate debate and launch a process of consultation, at European level, on a particular topic. | The document exposes options to develop the management of biodegradable waste in Europe (which includes food waste). |
| <i>Preparatory study on food waste across EU 27</i> | Report elaborated by the research agency BIO Intelligence Service to provide information about food waste to the European Commission for internal use. | The document assesses the dimension of the problem, addresses EU policy measures and analyses possible policy options for food waste. |
| <i>Roadmap to a Resource Efficient Europe</i> | Official document released by the EC to communicate action on a certain issue, on which an impact | To enhance resource efficiency, the roadmap addresses food as one of |

¹⁶ COM(2008) 811

| | | |
|---|--|--|
| (Communication) | assessment will be conducted to evaluate economic, social and environmental consequences of any new initiative. | the key sector, including food waste reduction as a milestone for a more sustainable food production and consumption. |
| REPORT On how to avoid food wastage: strategies for a more efficient food chain in the EU¹⁷ | Reports are adopted by parliamentary committees on a proposal from a <i>rapporteur</i> appointed by the committee responsible. The motions for the resolutions are examined in plenary and eventually adopted. | Through this report the EP demands the Commission to take practical measures towards halving food waste by 2025 and at the same time preventing the generation of bio-waste. Call for 2014 as year against food waste. |
| Communication on Sustainable Food | Document released by the EC to communicate action on a certain issue, on which an impact assessment will be conducted to evaluate economic, social and environmental consequences of any new initiative. | The Communication is foreseen for November or December 2013 to provide guidelines to lower environmental impacts of food production and consumption and will serve as a broad umbrella for food waste, which is the most important key area. |

Table 3: Prospect of major EU documents, their functions and contents concerning food waste.
Source: self-elaboration.

2.2 Legislative framework

Ensuing a very complex and detailed framework of food legislation, Europe has progressively established a consistent political and regulatory framework on waste and food waste management. Since the management of food waste involves several policy areas (sustainable resource management, climate change, energy, biodiversity, habitat protection, agriculture and soil protection), but there is not a specific directive, there are many directives that provide a framework for its disposal.

¹⁷ 2011/2175(INI)

Firstly, Europe is in the vanguard about organic waste collection: Belgium, Austria, Germany, Switzerland, Italy, Norway, Luxemburg, the Netherlands and Sweden are pioneers of organic waste collection, one of the best allies in food waste quantification. Generally speaking, EU has successfully produced several directives and legislative frameworks able to homogeneously manage waste and consequential recoverable resources. Directives are particularly strategic in this field since they establish targets that must be achieved in every Member State, which is free to decide how to do so. During the last fifteen years a series of directives has been approved, thus creating a good basis for a food waste policy or soft regulation:

- **Landfill Directive (1999)**¹⁸

Directive that targeted the reduction of biodegradable waste from the municipalities to be stored in landfills by 65% by 2016 compared to 1995 levels. This waste should be used for alternative options (composting, incineration, mechanical-biological treatments, etc).

- **European Sixth Action Programme for the Environment (2002)**¹⁹

The programme, called "Environment 2010: Our Future, Our Choice" focuses on four priority areas for action: climate change, biodiversity, environment and health, and sustainable management of resources and wastes. To achieve the target of reducing waste going to landfill by 20% by 2010 and by 50% by 2050, it provides strategies for the prevention of waste and recycling.

- **Packaging Directive (2004)**²⁰

Directive on the packaging of food products and their disposal to prevent or reduce the environmental impact of packaging and packaging waste (for instance by reducing plastic packages).

- **Waste Framework Directive (2006)**²¹

Crucial directive on general waste that introduces the 3Rs of waste (re-duce, re-use, re-cycle) to minimize waste disposal, and sets targets for recycling and

¹⁸ 1999/31/EC

¹⁹ 1600/2002/EC. General environment action programmes have guided the development of EU environment policy since the early seventies. The Sixth EU Environment Action Programme covered the period 2002-2012.

²⁰ 94/62/EC

²¹ 2006/12/EC

waste reduction in Member States, also by introducing for the first time specific targets for household waste (reduce 50% by 2020).

- **New Waste Framework Directive (2008)**²²

This revised Directive establishes new recycling targets for 2020 and obliges Member States to develop national waste prevention programs. Moreover it introduces a strategy for the separate collection and treatment of biodegradable waste.

2.3 The problem of food waste worldwide and in the EU

In the context of *Europe 2020 Strategy* and generic increasing in the attention given to resource efficiency, food waste is a key issue in the international context for food and agricultural sustainability. The inclusion of food waste within the worldwide issues faced by international organizations started in 1945, when the reduction of food losses was included in the mandate of the Food and Agriculture Organization of the United Nations (FAO)²³. During the late 1960s the *Freedom for Hunger Campaign* was launched to reduce food losses. Despite this, only in 1974, during the first World Food Conference, post-harvest losses reduction was enclosed as one of the actions to reduce world hunger, by targeting a 50% reduction of food losses in developing countries by 1985. The project run until the 1990s, but no coordinated actions or monitoring methods were developed for further actions in developed countries until 2011. During the last decades food wastage has become even more critical as one third of the food produced worldwide is estimated to be wasted along the food supply chain²⁴, which is about 1,3 billion tons per year, while critical problems of food security affect both developed and developing countries.

A study of 2010 commissioned by DG Environment to the French agency BIO Intelligence Service²⁵ estimates that only in the EU27 89 million tons of edible food are wasted per year “from farm to fork”²⁶, about 179 kg per capita, which are

²² 2008/98/EC

²³ <http://www.fao.org/about/en/>

²⁴ Global food losses and food waste (2011)

²⁵ Preparatory study on food waste across EU27 (2010), source 2006 EUROSTAT

²⁶ A commonly used expression in the European Commission's documents. It refers to a DG Agriculture's namesake project in the food & drink industry to identify and trace food information along the whole supply chain.

expected to become 126 million by 2020 if nothing is going to change. This amount of food represents 50% of the annual European production and consumers are responsible for at least 60% of total food waste. The situation is even more worrying in the US, that alone waste 90 to 100 billion dollars in food each year, which correspond to 211 kg per capita; the latter are just partial data as, like the National Resources Defense Council (NRDC) affirms, no dedicated measurement or study has been carried on in the States yet²⁷. A much recent study²⁸ by the Institution of Mechanical Engineers in the UK has estimated that 30 to 50%, or 1,2 to 2 billion tons of all food produced globally “never reaches a human stomach”.

The following graph shows a summary of the amount of food produced, globally at field level and estimates losses, conversions and waste in the food chain in terms of kilocalories lost per capita every day.

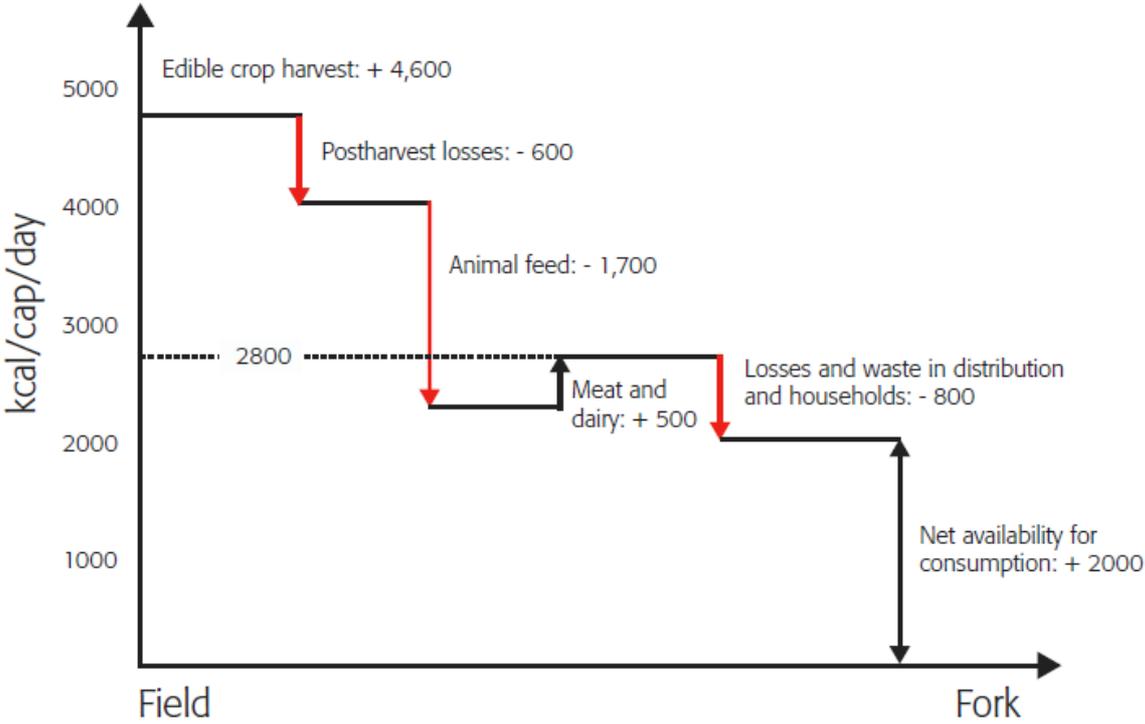


Figure 1: A schematic summary of the amount of food produced, globally, at field level and estimates of the losses, conversions and wastage in the food chain. Source: Smil (2000). Illustration: Britt-Louise Andersson, SIWI.

²⁷ <http://www.nrdc.org/food/wasted-food.asp>

²⁸ Institution of Mechanical Engineers UK (2013). *Global Food. Waste not, want not.*

The picture becomes even more alarming if we consider demographic expectations: world population is estimated to be 9 billion by 2050, which at the current rate of production and resource efficiency, would need three times the amount of food which is now available. The United Nation's latest World Economic and Social Survey²⁹, has called for a doubling in food production, since the largest part of the increase in population will be in those areas where poverty and hunger are keep struggling the population, but there are no efficient or enough agricultural and food production systems to feed all that people. Considering this, it is far more astonish that so much food is wasted instead of being redistributed to people who are starving.

As stated by Jan Lundqvist in the report *Saving Water: From Field to Fork. Curbing Losses and Wastage in the Food Chain*³⁰, over the past 50 years, food supply has increased at a higher rate than the population. Despite this undernourishment has been reduced until recently, when the real price of food has rapidly increased with dramatic repercussions on the poorest part of society. Inefficiencies along the supply chain are not only a waste of food and water, but create a worldwide problem of food security, since food is almost never produced where it is consumed, thus forming a global food supply chain. Efficiencies in one part of the chain are useless, if losses persist in another part. Consume and production paths in developed countries have strong consequences in other parts of the world.

In October 2012 the UN Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP), jointly published a report presenting better estimations of chronic undernourishment³¹. At least 870 million people have been suffering chronic undernourishment in 2010-2012, while almost 1,5 billion were overweight and obese³². Food-related diseases have become a worrying reality in all those countries where the excess of food and consume has created as much high numbers of resources waste. Despite this, developing countries also register a certain quantity of

²⁹ United Nations - World Economic and Social Survey 2011.
http://www.un.org/en/development/desa/policy/wess/wess_current/2011wess.pdf

³⁰ Policy brief by Stockholm International Water Institute (SIWI)

³¹ FAO, IFAD, WFP - *The State of Food Insecurity in the World* (2012).

³² WHO Fact sheet N°311 May 2012.

wasted food, mainly caused both by the lack of proper infrastructures and food preservation systems at pre-harvest level. Moreover poor farmers have to harvest crops too early in case of food deficiency or need for cash, thus pulling down nutritional and economic value of food that than gets wasted³³.

Many socio-economic variables have contributed to this situation: food system evolution, changes in food production, food commodity prices, consumption patterns, dietary switches (from carbohydrate-rich staples to vegetable oils, animal products and sugar). The heart of the problem can however be found in the evolution of the *food security* conception. What have been previously established to guarantee availability and access to food, has now become a degenerative model for production and consume, where an increase in income levels has lead to dangerous consequences for the health of men and for the planet itself: obesity, heart-related diseases, resource waste, overconsumption and waste overproduction are the main disasters caused by the common consume behavior of modern lifestyles. Food waste is estimated to cause about 3% of global GHG emissions, since its climate footprint is composed by the emissions of all the stages of the food supply chain which have been necessary to produce that wasted food (production, transportation, commerce) and also by the resources needed to dispose of the discarded food (Segrè, Gaiani, 2012).

Bearing in mind this worrying frame as a staring point, the awareness of food waste has significantly spread during the last decade, allowing the creation of associations and movements either related or not to governmental apparatuses or international organizations, which gained international resonance in Europe and helped food waste to become part of the EU agenda.

2.4 Current initiatives

National level

As previously stated, food recovery programs have raised in different European countries since the 1990s. Recent reports on food waste have started to describe them together with the most recent awareness raising campaigns, to assess the

³³ Global food losses and food waste, 2011.

spread of the phenomena through Europe and report their impacts on food waste reduction.

I will report some of the most successful national initiatives: the Italian *Last Minute Market*, which is also the main contributor to the parliamentary resolution on food waste; the Danish *Stop Splid Af Mad*, whose founder is an enthusiastic young woman that achieved great results in few years and get involved in international projects like FUSIONS and SAVE FOOD; the British *Love Food Hate Waste*, a governmental massive awareness raising campaign that has significantly reduced food waste in the UK and is internationally considered as a best practice.

The lack of a US movement or campaign described is because a national program for awareness raising or food waste management has not been created yet, even if the food bank system is capillary diffused along the country.

Last Minute Market

Food recovery initiatives are very diffuse in Italy, often in informal and local entities, both voluntary and religious. This capillary form of distribution is encouraged and regulated by the so-called *Good Samaritan Law*³⁴ that allows all non-profit organizations working for social solidarity to recover highly perishable food still edible (ex: cooked food, food close to expiry date) remained unsold to redistribute it to people in need. There is no other country in Europe who adopted this kind of law.

*Last Minute Market*³⁵, launched in 2008 by Professor Andrea Segrè, is an academic spin-off of the University of Bologna, Italy. It is a professional recovery and redistribution system that works at national scale, providing services to enterprises and public institutions in order to prevent, reduce and recover waste and unsold goods, including food, books and pharmaceutical products. With more than 40 active projects in Italian municipalities, provinces and regions, LMM has developed an efficient and effective method to manage a complex donation and recovery system.

³⁴ L. 155/03

³⁵ http://www.lastminutemarket.it/chi_siamo

The project is gaining great visibility at Italian level. National media have started to talk about the program: main national newspaper, but also TV news and information programs and radio are contributing to LMM national diffusion³⁶.

The most important initiative at European level is *A Year Against Waste*³⁷ project launched in 2010 and supported by the Faculty of Agriculture of the University of Bologna, in coordination with the Technical and Scientific Conference of the Deans of the Italian Faculties of Agriculture and under the patronage of the Committee on Agriculture and Rural Development of the European Parliament. The multi-year project principal goal is to raise awareness in Italy and Europe on causes and consequences of waste, on ways to reduce it by promoting a civil and scientific culture imprinted on the solidarity and sustainability principles. Every year since 2010 has been dedicated to a theme: food (2010), water (2011) and energy (2012). As a consequence of the first year campaign against food waste, a *Joint Declaration Against Food Waste*³⁸ was drafted and presented at the European Parliament in Brussels at the conference *Transforming Food Waste into a Resource*, on the 28th October 2010. The *Declaration* includes a commitment for the reduction of 50% of food waste at global level by 2025, calls for the creation of a global partnership with the largest number of stakeholders and community members involved and calls on the United Nations to include the fight against food waste within the Goal 7 (“Ensure environmental sustainability”) of Millennium Development Goals. It also urges the European Commission to take a position on the issue and to insert it in its Work Programme in the short term. After the conference, the *Declaration* constituted the milestone for a subsequent *Report on how to avoid food wastage*³⁹ approved by the European Parliament in Strasbourg on the 19th January 2012⁴⁰.

As part of the project in 2012 a socio-economic survey on domestic food waste was launched, in cooperation with the University of Bologna, the Institute for Health and Consumer Protection of the Joint Research Centre (JRC), the Karlsruhe Institut für

³⁶ http://www.lastminutemarket.it/media_news/

³⁷ <http://www.unannocontrolospreco.org>

³⁸ http://www.lastminutemarket.it/media_news/wp-content/uploads/2010/12/JOINT-DECLARATION-FINAL-english.pdf

³⁹ 2011/2175(INI)

⁴⁰ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2012-0014&language=EN>

Technologie and Last Minute Market. The survey, which I did contribute to diffuse, aims at investigating personal attitudes and behaviours in relation to food that gets wasted or thrown away to reach quantitative and qualitative data by stimulating the active participation of the public⁴¹.

The University of Bologna is currently involved in the EU financed project FUSIONS and is one of the partners of the SAVE FOOD project of FAO.

Stop Spild Af Mad – Stop Wasting Food movement Denmark

*Stop Spild Af Mad*⁴² movement was created in 2008 in Denmark, one of the most advanced European countries in the fields of waste management, prevention and handling. Notwithstanding this, data on food waste in Denmark are not fine: each year the equivalent of 2.15 billion € in food is wasted, despite the fact that 48% of Danes are convinced they do not waste food, according to a research by the Danish Agriculture and Food Council in 2009⁴³.

Stop Wasting Food movement Denmark (Stop Spild Af Mad) is a consumer movement whose mission is to raise public awareness about food waste and to reduce it in Denmark, thus contributing “to a positive and lasting change” for the Danish population. It was established in 2008 by Selina Juul, a graphic designer that chose to plead the food waste cause after volunteering for Greenpeace and reading about Denmark’s waste of food.

Denmark’s largest movement against food waste, the movement is a privately based and 100% apolitical, non-religious and non-profit organization, with more than 8000 members that include Denmark’s Prime Minister, Members of the Danish Parliament, EU politicians, top Michelin chefs and Danish food personalities, but most of all private consumers. Among the prominent supporters of the movement is Denmark’s former Prime Minister Mr. Poul Nyrup Rasmussen.

The movement operates through campaigns in schools, public lectures, seminars, press, discussions, debates, events: *Stop Wasting Food* was at COP 15, the United

⁴¹ <http://www.unannocontrolospreco.org/it/home-ita/8-italiano/news-ita/112-indagine-sullo-spreco-alimentare-domestico.html>

⁴² <http://www.stopspildafmad.dk/inenglish.html>

⁴³ Copenhagen Research Institute (2010). *Feasibility study of food waste in Denmark*.

Nations Climate Change Conference in December 2009, it is frequently invited by the Danish Parliament to make presentations and hold public speeches, and participated to the conference *Transforming food waste into a resource* at the European Parliament in Brussels on October 2010 during the conference *Transforming Food Waste into a Resource*. Participants to the conference included Paolo De Castro, members of the European Parliament, politicians, academic professors, NGOs and organizations in the field of food waste.

What is very peculiar about this movement is the use of information and communication technologies: not to mention social networks like Facebook, where almost 7400 fans follow the movement, and the Youtube account, news about the movement have been reported in more than 60 media outlets, including TV, radio and newspapers. Press review shows 500 and more articles in newspapers and magazines, as well as more than 40 radio and 37 TV appearances⁴⁴. Close to this, a website and a blog are actively used as information tools.

Stop Wasting Food has a constructive approach with its campaign. People receive an “equipment” of simple, practical and easy-to-do suggestions that they can use in their daily lives to minimize food waste. The movement also inspires consumers to act locally, for example by donating edible surplus food to shelters for homeless people.

Among the tangible results, these are some of the most important achievements *Stop Wasting Food* movement has reached:

- It inspired the Scandinavian retail chain Rema 1000 to drop quantity discounts in the chain’s more than 200 Danish stores and thereby to contribute to less food waste. Moreover they reduced food packaging by 25% and increase the availability of smaller portions in supermarkets.
- *Danish Charter Against Food Waste: Stop Wasting Food* is appointed a seat in the Initiative Group Against Food Waste under the Danish Minister for the Environment and is among the signatories to the Charter Against Food Waste

⁴⁴ Press review: http://translate.google.com/translate?sl=da&tl=en&js=n&prev=_t&hl=da&ie=UTF-8&layout=2&eof=1&u=http%3A%2F%2Fwww.stopspildafmad.dk%2Fpresseomtale.html&act=url

along with 19 large corporations and organizations, all of which have committed to action of reducing food waste.

Stop Wasting Food is one of the co-developers of the *Joint Declaration Against Food Waste*, is one of the partners of the FUSIONS project of the European Union and is also among the official supporters of the FAO's initiative against food waste *Save Food*.

Love Food Hate Waste

Launched in 2007, the *Love Food Hate Waste* campaign aims at encouraging behavioral change and raising awareness among consumers in the UK about economic and environmental consequences of food waste. Managed by the Waste and Resources Action Programme (WRAP), in May 2008 the report *The Food We Waste* was published, to address the knowledge gap about food waste in the UK. The study found out that UK households throw away 6,7 billion tons of food every year, which correspond to £10 billion cost per year.

The *Love Food Hate Waste* campaign provides support and information for citizens through practical advices as a meal planner and a portion calculator, tips for label interpretation and good storage of food and recipes for cooking with leftovers. After two years of campaign, WRAP claims that 1.8 million UK households have started cutting back on the amount of food they throw away, resulting in an overall saving of £296 million a year, stopping 137,000 tons of food to be thrown away⁴⁵. However, WRAP's research also shows that 84% of UK citizens still feel they do not waste significant amounts of food - therefore the campaign's aim is to continue to raise awareness of the issue, by stressing the personal and financial benefits of wasting less food.

WRAP is a lead partner both in the FUSIONS project and in SAVE FOOD.

EU level: the FUSIONS project

Notwithstanding the spread of food waste awareness through Europe, the lack of a common definition of the problem together with the lack of common indexes to measure it are some of the main obstacles for a policy on food waste. Although the

⁴⁵ <http://www.wrap.org.uk/content/consumers-save-£300-million-worth-food-going-waste>

actors in the food sector have many good approaches and concepts for increased sustainability at national level, they hardly come together to form networks.

FUSIONS (Food Use for Social Innovation by Optimising waste prevention Strategies)⁴⁶, first in its sort, was launched in August 2011 by the European Union, funded by the European Commission framework programme 7⁴⁷. About 4 million € have been assigned to this project, which is planned to be closed after four years. FUSIONS counts on 21 project partners from 13 countries in Europe involving universities, knowledge institutes, consumer organizations and businesses⁴⁸; only farmers are not included.

The project's goal is to contribute to achieve a resource efficient Europe by significantly reducing food waste of 50% and by reducing food chains resource inputs of 20% by 2020.

The tool is a comprehensive and experienced European partnership covering all key actors across of the food supply chain, including regulatory, business, NGOs and knowledge institutes, all with strong links to consumer organizations. FUSIONS wants to establish a tiered European “multi-stakeholder platform” to generate a shared vision and strategy to prevent food loss and reduce food waste across the supply chain through social innovation: new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations.

Main purposes of the project are the harmonization of food waste monitoring and measuring, adaptation of social innovative measures for optimized food use in the food chain and development of a Common Food Waste Policy for EU27. The project has five work packages which correspond to five sub-themes FUSIONS deals with. Currently the first one is ongoing:

⁴⁶

http://cordis.europa.eu/search/index.cfm?fuseaction=proj.document&PJ_LANG=EN&PJ_RCN=13017284&pid=112&q=57F24203FFB3C3496B6EF75CC25158DE&type=pro

⁴⁷ http://cordis.europa.eu/fp7/home_en.html

⁴⁸ See Appendix C.

1. **Definitions:** find a common definition for waste, to define the difference between food waste, food losses, spoilage, etc.
2. **Methodology:** establish a common methodology for food waste measurement at each level of the food supply chain.
3. **Policies:** study on which solutions should be created and proposed to face and reduce food waste through efficient national and European policies.
4. **National platforms:** creation of national platforms that will converge in a European one where all the food chain stakeholders can meet and elaborate common actions.
5. **Communication:** how to communicate the project results to the European and global level.

Located at the University of Wageningen (NL), Wageningen UR Food & Biobased Research is coordinating FUSIONS. The team in Wageningen is coordinating the work of diverse research and funding organizations from all over Europe, which are tackling specific key areas within the framework of FUSIONS, ranging from the University of Bologna, through to the Swedish Institute for Food and Biotechnology (SIK) up to the French National Institute for Agricultural Research (INRA). Project's website has been launched on February the 8th 2013⁴⁹.

Global level: SAVE FOOD and the campaign Think.Eat.Save

The SAVE FOOD initiative was firstly presented on May 2011 in Düsseldorf during the Interpack, the world's most important trade fair for the packaging industry and related process industries. The initiative is a public-private partnership instituted by the FAO and Messe Düsseldorf GmbH⁵⁰ to fight global food waste by encouraging the dialogue among industry, research, politics and civil society. The initiative puts in contact donors, bi and multi-lateral agencies and financial institutions like UNIDO, African Development Bank, World Bank, IFAD, EU, with private sector partners like the food package industry. FAO has provided background data for the project through the two studies it conducted in 2011: *Global food losses and food waste* and

⁴⁹ <http://www.eu-fusions.org/>

⁵⁰ Düsseldorf Messe is one of the world's biggest trade fair ground and organizer. It is crucial for the work with the industry sector in the project.

*Appropriate food packaging solutions for developing countries*⁵¹. The first one, already described, develops a uniform overview on causes and solutions for food waste worldwide; the second one examines how low-income countries can better use locally available packaging materials to package and preserve food and maintain the nutritional value and analyzes the investment potential in appropriate packaging technologies for the food packaging industry. The start-up plan for SAVE FOOD is based on four main pillars:

1. **Awareness raising** on the impact of food waste and possible solutions. The campaign *Think.Eat.Save* was launched on the 22nd of January 2013⁵², to bring together the experiences of the different campaigns like Love Food Hate Waste and Feeding the 5000. A dedicated portal⁵³ provides simple tips for consumers and retailers, and includes a platform for those running campaigns to exchange ideas and create a truly global culture of sustainable consumption of food.
2. **Collaboration and coordination.** SAVE FOOD is establishing a global partnership of public and private sector organizations and companies that are active in the fight against food loss and waste.
3. **Policy, strategy and programme development.** Field studies on a national-regional basis have been launched and will be, combining a food chain approach to loss assessments with cost-benefit analyses to determine which food loss reduction interventions provide the best returns on investment. An example of these studies is the one currently carried on in Kenya, where key stakeholders are analysing the critical points along the food supply chain where losses occur the most. Following studies will include Cameroon, India, Myanmar, Senegal, Thailand, Uganda, and Viet Nam⁵⁴.
4. **Support to public and private investment programmes and projects.** This includes technical and managerial support for, as well as capacity building of food supply chain actors and organizations involved in food waste reduction, either at the food subsector level or policy level.

⁵¹ Food and Agriculture Organization (2011). *Appropriate food packaging solutions for developing countries*.

⁵² <http://www.wrap.org.uk/content/thinkeatsave-une-p-fao-and-partners-launch-global-campaign-change-culture-food-waste>

⁵³ <http://www.thinkeatsave.org/>

⁵⁴ <http://www.fao.org/save-food/programme1/field-studies/en/>

Chapter III – Methodology: elite interviewing

Close to the documental analysis, there is another methodological tool that I have used for my work: interviews to policy elite actors. The following chapter reports the theoretical framework employed to design the interviews, providing the reasons for choosing semi-structured open-ended questions for interviewing. It also explains the technique used to structure the semi-structured interviews and possible related constraints. Furthermore it describes how the interviews have been conducted and the main purposes for the research.

3.1 Theoretical framework

Interviews are one of the most commonly used tools in social (King, 2004) and political science for qualitative research (Berry, 2002; Lilleker, 2003; Richards, 1996). Political scientists use both generally and elite interviewing, where elite refers to a group of individuals, who perform a privileged position in society and so are likely to have more influence on political outcomes than general members of the public (Richards, 1996). Elite interviewing is particularly useful in collecting first-hand testimonies from direct participants in the policy-making process, and is characterized by a situation in which the balance is in favour of the respondent (Burnham et al., 2004).

In his study Leech states that semi-structured interviews with open-ended questions are often used in elite interviewing, but presume a lot of knowledge about the subject matter by the interviewer. Moreover he also underlines two main elements that must coexist in conducting an interview. Firstly, the importance of gaining a rapport with the interviewees that consist in putting them at ease, showing that the interviewer is listening carefully to what they are saying and is interested in. Secondly, the type of open-ended questions that should be asked in a semi-structured interview, which are the so called *grand tour questions*, which ask respondents to give a verbal tour of something they know very well, *example questions*, similar to the previous ones but more specific, and *prompts*, which can rescue an otherwise early ending answer (Leech, 2002). What the interviewer wants to know is also very important in determining the type of questions: open-ended questions are the best tool if one needs to probe for information and to give respondents maximum flexibility in

structuring their responses within their own framework (Aberbach and Rockman, 2002).

Getting the interviews can be considered as much important as preparing the right questions and coding, as it is necessary to gather information from a sample of officials, whose characteristics or decisions can be generalized and it is better to discover a particular piece of information or document; difficulties can come also from navigating through “busy receptionists and wary schedulers” (Goldstein, 2002). Methodological issues in elite interviewing involve both validity (appropriateness of the measuring instrument for the task) and reliability (consistency of the results when repeating the test with the same instrument); despite being very flexible, elite interviewing is able to maintain valuable these two characteristics (Berry, 2002).

Obviously there are both operational and interpretational problems related to the tool of elite interviewing. One of them is the issue of unrepresentative sampling, mainly due to a problem of access to some categories of individuals; in this case the interviewer must acknowledge this fact⁵⁵ (Richards, 1996).

3.2 The interviews

Interviews were realized within January and February 2013, via telephone or Skype, they were recorded with the permission of interviewees, and transcribed. I have personally contacted the interviewees by email to gain their consensus to be submitted to the interview, and sent them the surveys by email before the actual interviews; all of them have shown a vivacious co-operation and enthusiasm in giving their contribution. Interviews lasted more or less half an hour each and were realized both in English and Italian. Please find the list of interviewed policy actors in Appendix B.

Interviewed policy actors belong to four main fields, due to their different inference in the policy process of food waste: (1) European Commission; (2) European Parliament; (3) Academy and Research; (4) Activism. Each category was analyzed using a different interview scheme, reported in Appendix A.

⁵⁵ Vide infra *Limitations of the work* in Chapter V.

Following below I report the main purposes that drove me in the redaction of the surveys, coherently with the research question.

Identify the main representative actors of the process, both belonging to EU institutions and externals. Actors are identified in their context, which belong to one of the four categories previously listed. During the interviews it was asked them to explain their role in the process as well as their work concerning food waste. Part of these actors is involved in the institutional part of the process, both in the bureaucratic and political level of the EU. Another part is involved in national awareness campaigns or work as researchers in universities; they are also members of the FUSIONS network.

Verify the presence of policy entrepreneurs. During the documental analysis two actors have emerged for their relevance and commitment to the issue in the agenda setting process: Prof. Andrea Segrè and the MP Salvatore Caronna. Interviews have been used to identify motivation, goals and personal reasons that have lead them to get so involved in the cause, together with confirming their role in promoting the issue at European level.

Analyze any venue shopping phenomenon, to find out if there have been searches for hospitable venues at national level before getting to the European one and what is the different contribution that the EU can bring compared to MS. The interviews investigated whether or not policy entrepreneurs or other actors have looked for different venues by bringing the issue to national institutions and, if it did happen, what have been the results and receptiveness of national governments. The research pointed out which are the main advantages that EU institutions can bring to a future policy on the issue of food waste if compared to MS.

Understand the framing process of the issue in the EU work. This part of the interviews has been determinant in deepening and confirming the double framing of the issue, as it helped in understanding which elements of the food waste issue have been pinpointed by the different institutions to create a coherent framing for its evolution in the EU agenda.

Investigate about current actions of the EU about food waste, like the ongoing Inter-service Steering Group on Sustainable Food and the project FUSIONS, to understand their backgrounds. The interviews helped me in deepening the information about the aforementioned projects: who is in charge of their management, which are the current and future actions programmed and short/medium term goals established. Moreover I investigated about any future cooperation among the projects.

Discuss about problem definition elements: role of indicators and feedbacks from studies, presence of focusing events. Despite the lack of a common definition of the problem and agreed measurement tools, several studies have already been launched to quantify the amount of food waste globally and in EU countries; the FUSIONS project aims at solving this issues, but it has started very recently. The EU work is however based on those existing studies; the interviews analyzed which studies have been determinant for the Commission to tackle the issue, which are the one it is basing its work on. My previous analysis identified the conference *Transforming Food Waste Into a Resource* as the leading event that signed rise of the European Parliament involvement in the issue and spread its evidence in the EU agenda; interviews have been used to confirm this hypothesis. The interviews also investigated about some characteristics that would help food waste to rise in the agenda.

Discuss on present solutions and policy options available and processing. The interviews investigated about the current elaboration of policy proposals concerning food waste considering the ones previously listed by DG Environment's *Preparatory study on food waste across EU 27*, to see if those proposals are the ones currently used as a common frame by the European Commission.

Discuss the role of political forces. Despite the lack of a proper legislative proposal on food waste, I have used the interviews to assess the political status of food waste in the European Parliament, to verify the support by organized political forces. I also investigated about the political reasons that lead the MP Salvatore Caronna to push the issue (electoral program, push from his party or personal interest).

Chapter IV – Empirical analysis: the case of food waste

In this chapter the framework and theories illustrated in Chapter I will be applied to the concrete case of food waste, considering the context and information provided in Chapter II and results emerged by the interviews.

Firstly, the case will be explained by accounting for the type of agenda process occurred, followed by the description of the four stages of issue career: a deeper analysis will be provided for the stages of issue initiation, specification and expansion, while finally an explanation for the lack of issue entrance will be specified. The stress will be put on the two types of agenda process and relative strategic issue framing. Following, a paragraph will illustrate the venue shopping phenomenon among EU institutions and Member States, to better understand the role and potential impact of the EU as principal venue for the food waste issue.

The second part of the chapter will focus only on Kingdon's multiple streams theory applied to the concrete case of food waste, illustrating all the elements that contribute to each stream, to provide a deeper insight of the issue and give to it credits as a potential EU initiative.

Both parts of the chapter refer to the same main period, which starts from October 2010 and ends in February 2013, as the progresses of the issue are ongoing in the present and interesting developments are foreseen for the end of 2013 with the Communication on Sustainable Food, and for years to come, depending on which year will be actually chosen by Barroso and its Commissioners as *EU Year against food waste*.

4.1 Agenda setting of food waste in the EU

As previously stated, thanks to FAO, food waste is not a new issue among international organizations concerns. Nevertheless, it was only during the last decade that the European Union started a real institutional involvement into the food waste problem, beginning with a more specific approach on bio-waste. In fact, opposite to the FAO approach, which relies more on food security and right to food, the EU has followed a rather different route which passes through the consolidated waste framework and gradually turns on behavioral change and prevention.

Besides this, studies on food waste and specific initiatives have spread through Europe and further, thus increasing public awareness and problem perception. Principal headlines in many countries have started reporting the problem, and dedicated conferences are not rare and involve more and more public and media resonance.

In 2011 the FAO has launched the SAVE FOOD initiative for global awareness raising and coordination. Recently, the EU project FUSIONS has started to set the scientific basis for a future coordinated action against food waste. The fact food waste is a 360° issue is every day more evident and things are moving very fast.

The parallel routes of food waste in EU institutions

As previously stated, in the European Union what really matters in agenda setting is not whether or not an issue has been publicly or politically pushed, but which EU venue did take care of that issue. The route of food waste locates itself on a half way between the main *low politics route*, given the involvement of the European Commission experts in that area together with external academics and researchers, and a sub-category of the *high politics route*, considering the entrance of the European Parliament in the call for actions to be taken. Actually, the European Commission and the European Parliament have followed two different but parallel journeys, which fall within the third modified form of agenda processes presumed by Princen and Rhinard (2006). The two processes of high and low politics route might occur in parallel, each having a reciprocal effect on the other. In our case, issue initiation and specification might have started before in the European Commission, but issue expansion has been rather promoted by the European Parliament intervention, even if the two routes coexist in each step.

On one side, as a consequence of the increasing importance of bio-waste in waste legislation, the European Commission has proceeded through the Green Paper on bio-waste, than a specific preparatory study on food waste and finally the *Roadmap for a Resource Efficient Europe*⁵⁶. Generally speaking, the European Commission's work has tried to insert food waste as a part of a biggest policy on bio-waste

⁵⁶ COM(2011) 571

management to improve sustainability. Hereafter the European Commission has proceeded as established by the resource efficiency roadmap, in elaborating a Communication on Sustainable Food, that will constitute a broader umbrella for a specific initiative on food waste by establishing an action plan that provides guidelines to limit waste along the food supply chain, also identifying the role the EU has to take and MS duties. An Inter-Service Group (ISG) on Sustainable Food has been established, to discuss and agree on a list of short and medium to long-term actions and to evaluate the potential of existing policies and initiatives that will be part of the Communication.

On the other side the *Joint Declaration against Food Waste* presented during the conference organized at the European Parliament in Brussels entitled *Transforming Food Waste into a Resource* in October 2010⁵⁷ put the basis for the specific parliamentary resolution on food waste, calling on the European Commission for a rather specific action on food waste prevention. After being discussed as a binding problem by the Committee for Agriculture and Rural Development, on November the 30th 2011, an own-initiative report drafted by MP Salvatore Caronna (S&D) was officially approved⁵⁸. On January the 19th 2012, the European Parliament on plenary session in Strasburg has approved the text of the aforementioned report on strategies for the reduction of food waste, including numerous suggestions from the *Joint Declaration*, calling for the year 2014 to be chosen by the college of Commissioners of the European Commission as the *EU year against food waste*.

The intervention of the *epistemic community* has affected both routes. In its studies and work the European Commission has always appealed to external agencies like BIO Intelligence Service or experts from universities like the Dutch Wageningen University. Among the European initiatives that study and take action to prevent food waste, the Italian *Last Minute Market* has been particularly active in taking food waste to the European level, by drafting and promoting the *Joint Declaration* in the European Parliament. Besides, Wageningen is also responsible for the project

⁵⁷ http://www.lastminutemarket.it/media_news/dichiarazione/

⁵⁸ 2011/2175(INI)

FUSIONS (ie. *Food Use for Social Innovation by Optimising waste prevention Strategies*) launched in August 2011⁵⁹.

Issue career of food waste

The four stages of issue career set up by Cobb, Ross and Ross (1976) can now be explained in the light of the two politics route that the issue of food waste followed.

Issue initiation

EU involvement in the issue of food waste has developed in two different stages. Regarding the first stage, the basis for the issue can be founded in the late 1990s, with the *Landfill Directive*, that evidenced the high quantity of biodegradable waste going to landfills instead of being destined to alternative options. From then on the different Directives approved to regulate waste⁶⁰ pursued in considering bio-waste as a strategic subject, to be treated and managed in particular ways. So it was in the context of these directives that the DG Environment of the European Commission has started to develop a deeper analysis of the quantity of organic waste produced⁶¹. After the publication of the Commission Green Paper on bio-waste, the European Parliament called for the inclusion of bio-waste management and prevention in the resource efficiency flagship⁶². In 2011 the inclusion of food waste in the *Roadmap to a Resource Efficient Europe* finally pushed the Commission to start a dedicate work on food sustainability, which includes food waste as one of its pillars.

A further step closer to the *high politics route* pattern was taken with the organization of the conference *Transforming Food Waste into a Resource*, which outcome has been the milestone for the parliamentary resolution⁶³ approved in Strasburg on January 2012. That resolution has signed an important change in the way the problem should have been considered, by focusing on strategies for food waste prevention at each stage of the food supply chain, rather than on its disposal.

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http://cordis.europa.eu/search/index.cfm?fuseaction=proj.document&PJ_LANG=EN&PJ_RCN=13017284&pid=112&q=57F24203FFB3C3496B6EF75CC25158DE&type=pro

⁶⁰ Waste Framework Directive (2006/12/EC) and New Waste Framework Directive (2008/98/EC)

⁶¹ Green Paper on the management of bio-waste in the European Union (COM(2008) 811)

⁶² 2009/2153(INI)

⁶³ REPORT on how to avoid food wastage: strategies for a more efficient food chain in the EU (2011/2175(INI))

Besides the European Union activism, the initiation of food waste as an issue in the European level can also be explained by the spread of food recovery programs and awareness campaigns in Europe since 1990s, thus contributing to local awareness and sometimes getting to national governments, like in the case of *Stop Spild Af Mad*. Latest years have been crucial for this process, especially considering the results of the collaboration between Prof. Andrea Segrè and the MP Salvatore Caronna within the European Parliament.

The spread of more and more studies and reports about food waste by international organizations and national governments has increased scientific certainty about its different negative impacts and producing a consistent basis to urge actions.

Issue specification

For the European Union the framing process of the issue of food waste has also followed two step in its developing, both with the final goal to frame it to make it become amenable to EU action.

At the beginning the authority of EU, due to the European big inference in waste-related issues provided by the consistent legislative framework about it, has lead the European Commission to insert food waste in the broader issue of “biodegradable waste”: biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retailers, and comparable waste from food processing plants. The focus of the European Commission on bio-waste has inevitably lead to consider that there were some parts of that waste that could be substantially prevented, like organic households waste. It is an evolved vision of this point that touches the first two objectives of the resource efficiency roadmap: “sustainable consumption and production” and “turning waste into a resource”. Besides the necessary reduction and recycle of waste, improvements in food consumption patterns and production systems, and the spread of information concerning life-cycle impacts of food products, must include actions for food waste reduction to be effective. Incentives and solutions for a more sustainable consumption and production of food are necessary to strongly reduce the **disposal** of still edible food wasted. This is what the Communication on Sustainable Food is

called for: limit the waste along the food supply chain to reduce the waste of resources and disposal of avoidable waste.

With the intervention of the European Parliament the frame has switched more on food waste **prevention** as a priority for the European Union. The exhaustion of resources is here considered from a food security point of view, where concerns on current consumption and production patterns are seen in prevision of the future rise of global population and global demand for food. The fact almost one billion people in the world are starving while such a huge amount of food is wasted lies at the basis of this reasoning. The parliamentary report in point therefore re-frames the issue, and establishes the basis for a *high politics route* of food waste. The European Commission is now called to focus specifically on food waste prevention as a primary concern about food security. This framing pattern was furthermore corroborated by the creation of the FUSIONS project, whose exclusive work on the food waste issue aims at proving a compendium of best practices and strategies for its prevention, which is actually a low *politics route* manifestation. It is remarkable how the two routes intersect each others in a continuum.

Actually, the study of DG Environment⁶⁴ and BIO Intelligence Service⁶⁵ elaborated in 2010, identifies and analyses five policy options for food waste prevention at EU-level, with evaluation in terms of costs-benefits, environmental assessment, economic and social impacts and feasibility:

- Option 1: EU food waste reporting requirements
- Option 2: Date labeling coherence
- Option 3: EU targets for food waste prevention
- Option 4: Requirement on separate collection of food waste in the MS
- Option 5: Targeted awareness campaigns

These policy options are now considered as a starting point for a future European initiative on food waste in the context of sustainable food. In the future, when the FUSIONS project will finally have produced some concrete results, a wider set of policy options will be available.

⁶⁴ Preparatory study on food waste across EU 27

⁶⁵ French environmental agency, a research centre in the vanguard on sustainable development matters.

Issue expansion

Similarly to previous steps, issue expansion stage of food waste can be also divided in two processes, currently ongoing in the bureaucratic European machine.

A *low politics route* characterizes the work of the European Commission in elaborating the Communication on Sustainable Food: from April 2012 an Inter-service Steering Group that includes members from a large number of DGs⁶⁶ has been established to work on the elaboration of guidelines to be included in the Communication to address the EU and Member States in key areas for sustainable food, where food waste is the most important one. A public consultation will soon be launched through the European Commission website. So the European Commission is in the path for a future expansion of the food waste issue: in the short term the adoption of the Communication on Sustainable Food will pave the way for soft measures or regulations that will give food waste a higher grade of urgency.

The intervention of the European Parliament has been critical in the *high politics route* of issue expansion, as it took specifically and singularly the issue to a higher level of resonance. For the choice of which year will be the *EU year against food waste*, there is however need of the approval by the council of Commissioners of the European Commission. There is not any certainty about the exact year that will be chosen, but there is enough confidence and scientific credibility around the issue to be sure that it is just a matter of few years. It will be a great occasion to discuss the issue in all EU27 national governments and realize how central this matter is in modern society.

As a melting point between the two routes, the FUSIONS project is the key that conjugal the work of the European Commission with the one of the Parliament, by creating a bridge for a future dedicated action on food waste. It is both important to support the work of the Communication on food waste, but also a tool for the food waste prevention asked by the Parliament.

⁶⁶ SG, DG ENV, DG SANCO, DG AGRI, BEPA, DG BUDG, DG CLIMA, DG COMM, DG COMP, DG DEVCO, DG EAC, DG ECFIN, ECHO, DG ELARG, DG EMPL, DG ENER, DG ENTR, ESTAT, DG HOME, DG INFSO, DG JUST, JRC, DG MARE, DG MARKT, DG MOVE, DG REGIO, DG RTD, DG TAXUD, & DG TRADE.

Issue entrance

Since no policy on food waste has been implemented yet, but works are in progress in this direction or at least for food waste inclusion in a wider policy on sustainable food, we cannot really talk about issue entrance. It is however true that the case of food waste illustrates the different opportunities and weaknesses in trying to enhance the urgency of an issue in the EU agenda.

Firstly, it is interesting to notice how useful the support of experts are in supporting a potential policy. Scientific reports like the one of FAO and national studies elaborated during the last years have provided strong scientific basis for further development. Moreover the intervention of academics and experts in the field of food waste has been crucial for the involvement of the European Parliament and the start of the FUSIONS project.

My research shows that in the future the two routes described will reach an intersection point, where framework, solutions and tools will meet in a comprehensive European action. The process will be gradual, continuing on this path and producing an effective action by the European Union that could concretize both in a soft regulation measure or a specific directive.

Venue shopping in the EU

The supranational nature of the European Union and its inference in every part of economic, political and social aspects of its Member States give to its interventions higher chances of effectiveness. Like Princen states (2009) EU institutions are active venues that indeed promote and support issues themselves and create policy debates on issues that might have passed behind in MS agendas.

At this point of the debate is quite clear that the problem of the food waste issue is not the lack of enough elements to proof its importance and urgency, but the difficulty in establishing a coordinated and coherent action plan for its massive reduction in the most effective and feasible way. The European Union is the best venue for make it happens, indeed because of all the implication the issue is holding back:

- food waste involves all the stages of the food supply chain, from the field level to consumer level in every country in EU27;

- EU internal market implies great interconnections among firms;
- environmental impacts of food waste involve all countries in EU27.

Targeted domestic policies are necessary, but after the development of European guidelines providing objectives and constraints for MS. Europe already has some great examples of national policies and actions against food waste (UK, the Netherlands), but they are isolated case: a further general framework would spread the possibilities of achieving great results in the reduction of the phenomenon. This does not imply that the European Union has to do all the work: what is going to result after the Communication on Sustainable Food will be launched and the *EU year against food waste* will be chosen will not be a regulation. It might be a directive or another form of soft regulation, but will need a strong commitment by MS to obtain results.

4.2 Multiple streams theory

Kingdon's multiple streams model (1984) is applied to explain how the issue of food waste gained importance in the EU agenda during last few years. The model is applied to show the combination of factors and actors in each independent stream that has determined this rise. In applying the model, the previous distinction between the two routes followed by the issue will be underlined, to show their horizontality to the three streams. However, the application of the model to the European Union will show some theoretical underdevelopment in some of the main components of the theory, due to specific mechanisms of the EU.

Problem stream

On the whole, feedback and indicators have played the main role in pushing food waste up in the European agenda, but is important to distinguish the different path of the problem stream according to the different framing processes of the issue.

In chronological order, the analysis starts considering the framing of food waste in terms of **disposal** carried on by the European Commission. Concerns on food waste as a consistent part of bio-waste have risen thanks to estimations provided by

organic waste collection in the EU27 (European Environmental Agency elaboration⁶⁷) and published in the Green Paper on bio-waste in 2008. The more recent DG Environment specific study conducted in 2010⁶⁸ assessed 89 million tons of food waste in the EU27, thus concretely assessing the magnitude of the issue in Europe (total, sector, per capita). Despite the lack of common definitions and measurement systems on the subject, the study became essential for every following document on food waste drafted in the European Commission. Coherently with previous legislative efforts in minimizing bio-waste and with the numbers provided by the BIOS's study, the European Commission proceeded then including the reduction of food waste as a priority to achieve resource efficiency in Europe, thus introducing it in the *Roadmap*. Later FAO report of 2011 has strengthened this data, confirming the urgency of the issue both at European and global level.

Food waste **prevention** has seen its growth as an urgent issue thanks to the interest shown by the European Parliament. In this case is possible to consider the presence of a focusing event, which is indeed the organization of the conference *Transforming food waste into a resource*. The event represented the occasion for the presentation of the *Joint Declaration against food waste* that has started the procedure for the subsequent parliamentary resolution approved in Strasburg on January 2012. This was the result of the cooperation between two of the main protagonists in this field: Prof. Andrea Segrè (LMM) that organized the conference and cooperate in drafting the declaration, and the MP Salvatore Caronna, who promoted the approval of the resolution in the European Parliament. The resolution refers to the existing aforementioned reports, but stresses more on the search for solutions to prevent the waste of food, since enough elements exist for a decision to be taken in that direction.

Even if not directly related to the European Union, food recovery programs and awareness raising campaigns have played a crucial role in problem definition. Taking as main examples the ones presented in Chapter II, it is possible to assert that their work at national level has significantly contributed to capture the attention of

⁶⁷ EEA CSI-16

⁶⁸ *Preparatory study on food waste across EU27*

European policy makers. Besides *Last Minute Market* and its direct relationship with the MP Caronna, the British *Love Food Hate Waste* is included among the best practices for waste prevention by different DG Environment's reports and WRAP leading studies in the field of food waste provides the most precise and accurate information for the UK, proving high empirical evidence for the issue.

Generally speaking indicators and feedbacks from EU studies definitely assessed the problem of food waste in the European panorama, and put the basis for its rise in the European venues. Procedural factors quite inevitable in the complex European bureaucracy have slowed the process, but now food waste has a reinforced position in the EU agenda. Food waste has become a widespread and undeniable problem, whose consequences have strong impacts on resource efficiency and so on the *EU2020 strategy*.

Policy stream

Policy communities on food waste are different and include actors from in and outside the European Union: European Commission specialists (DG Environment, DG Health and Consumers, DG Agriculture), international organizations (FAO, UNEP), national governments experts (WRAP), academics and researches (University of Bologna, Wageningen University), activists (Selina Juul, Tristram Stuart), and stakeholders (from manufacturing, packaging, and retail sector). There are actually two policy communities that are currently working on solutions for food waste in Europe: the Inter-service Steering Group on Sustainable Food of the European Commission and the EU-related FUSIONS project.

Policy solutions that are currently receiving more attention are the ones regarding the spread of the awareness along every stage of the food supply chain and the elaboration of targets and obligations for Member States. However each policy community is working on its shortlist of policy options that still will have to wait before being actually implemented.

The Inter-service Steering Group on Sustainable Food is the most institutional policy community, composed by experts on sustainable food matters from many DGs of the European Commission that somehow deal with food. Its work does include consultations with stakeholders and experts as well as a public consultation with

citizens, organizations and public authorities⁶⁹ (to be launched soon). In doing so, policy options elaborated in the BIOS report are considered as a basis. Following policy options have been generally hypothesized, but do not include hard legislative measures (regulation, directive):

- Take no action: leave the market to organize on its own. As resources become scarce, prices will adjust to ensure they are preserved.
- Organization/soft option: Actions could range from launching new campaigns, new work programs, research programs, discussion platforms and industry charters. DG Health and Consumers has already started some of these measures on its website, where consumers can download the “10 tips to reduce food waste” brochure and watch a video on food waste awareness⁷⁰.
- Demanding actions from Member States, new reporting obligations, setting of targets, or potentially for changes to existing legislation in order to remove barriers to resource efficiency.

The FUSIONS-related policy community is quite various: the 21 members of the project include international organizations, governmental agencies, universities, research institutes, food recovery programs and activists. They have not elaborated any precise policy option yet, but the work aims at providing the best scientific and methodological basis to elaborate the most efficient policy proposal for the EU level. Highlight of the project relies on find social innovation measures through the establishment of a multi-stakeholder platform that involves stakeholders of the food chain at every level. FUSIONS is considered as the most efficient tool for the elaboration of realistic policy options for Europe, and its outcomes will join the ones of the Communication on Sustainable Food. Policy options regarding food waste have almost been officially found, but the real question is when these solutions will find an occasion to be implemented.

Even if external to the European community the SAVE FOOD project by FAO and Messe Düsseldorf GmbH is worth consideration given its global resonance and the

⁶⁹ http://ec.europa.eu/yourvoice/consultations/index_en.htm

⁷⁰ http://ec.europa.eu/food/food/sustainability/index_en.htm

big involvement of the private sector. Surely the contributions that will result from its work will be a further support for EU action against food waste.

Policy entrepreneurs at European level included two main actors that affected only the *high politics route* of the issue: Andrea Segrè and Salvatore Caronna. Actually each founder of a food recovery program can be considered as a little policy entrepreneur, and did give a little contribution in bringing the food waste cause to the upper level of the European Parliament (like Selina Juul). However Segrè was the one who did organize the conference in Brussels and come up with the idea of the Joint Declaration; its fifteen-years experience with Last Minute Market and its widespread commitment to the cause (media, conferences, projects all over Europe) definitely qualify him as a worthy policy entrepreneur for food waste at EU level. On the other side, also Caronna worth this qualification; besides its institutional duties, he proved to be truly involved into the cause, given its diligence in visiting many small voluntary and religious food recovery and redistribution associations in Italy and Northern Europe. Its personal commitment to the cause, together with the help of the President of the Committee on Agricultural and Rural Development, Paolo De Castro, has been crucial for the fast approval of the parliamentary resolution.

Politics stream

Like the problem stream, the political stream influences the agenda setting processes. However, few events within the European political arena have shaped the political climate receptive for food waste-related policy initiatives and will influence it in the future: organized political forces support and turnover in positions at high levels of the European Union are the two points to focus on.

As far as it concerns the role of **organized political forces**, the outcome of my research shows a great support from them for the problem. The main political protagonist Caronna was elected in 2009 within the Group of the Progressive Alliance of Socialists and Democrats in the European Parliament (S&D). Food waste was not specifically included in its electoral program, but finally became one of its main concerns during the mandate at the European Parliament, thanks to a personal interest in the cause. The approval of the parliamentary resolution on food waste did find large support among different parliamentary groups and was approved relatively

fast, only 15 months after the *Joint Declaration* was presented to the European Parliament in Brussels, thanks also to a large support by the President of the standing Committee on Agriculture and Rural Development, the Italian MP Paolo De Castro. A settled context for a better waste management and a general push for resource efficiency have been key elements for food waste endorsement among all the different organized political forces.

Future provisions and concerns refer more on which year will be chosen as *EU Year Against Food Waste*, from 2014 on. Concerns are more about “when” than “if”, as the choice is quite sure. Although year 2014 will see the end of Barroso’s mandate and new European parliamentary elections, food waste support in the EP is high and is not likely to change according to changes in political forces equilibrium, since it is part of the resource efficiency strategy. Moreover since 2009 the Treaty of Lisbon imposed that the President of the European Commission must be directly elected by the European Parliament members, to ensure more stability. New equilibriums should not be a problem for the food waste issue and its current routes in the European Union.

Tendencies in political mood are not very influencing in this process. Besides the general lack of public involvement in the European agenda setting, European elections are also a slight convector for public opinion, since last elections see the participation of only 43,55% of the EU27 population.

Chapter V – Conclusions

The research question at the heart of the present work displayed as main goal the creation of a basis for the analysis of food waste as a policy issue in the European Union, to fill the gap of the relevant literature about the subject that does not include its policy cycle, and in doing so also contributing with a new empirical case that can provide an example for a different type of agenda setting process.

Considering the existing gap on food waste policy cycle, this work applies the theory of issue career in agenda setting process and the multiple streams theory of the garbage can model to this concrete case of European policy-making, to outline the issue's route across EU venues. This theoretical framework helped in tracking how the issue career of food waste evolved in two different routes, one that passes through the European Commission and another one that regards the European Parliament, each one identifying two different issue framing: food waste as a matter of waste disposal reduction and food waste in terms of prevention and behavioral change at each stage of the food chain.

Interviews to policy elite actors have been an indispensable tool in analyzing the policy cycle, allowing the understanding of different points of view, both from EU institutions, FAO, academics, researchers and activists. Policy documents analysis has also been crucial in drawing the different issue framings that occurred at EU level, and in providing a clearer scheme of the current situation and future perspectives for food waste in the EU.

Like Princen and Rhinard (2006) state in their paper referring to the case of anti-smoking policy and to the one of bio-terrorism, the findings of the present case study also suggest the usefulness of the distinction between the high and low politics routes in EU agenda setting. The case confirms that the two routes of the agenda setting process in the EU identified by Peterson and Bomberg (1999), the *high politics* and *low politics* routes, can show in modified forms: the process can occur somewhere in between the two routes, issues might change process over time, or two simultaneous processes with reciprocal effects can occur at the same. Food waste founds a new example to confirm this theoretical framework, in addition to the given examples on anti-smoking and bio-terrorism policies: it is an example of an

emerging issue already existing, not driven by an exogenous shock that has expanded thanks to actions taken by different venues that contemporarily dealt with the issue.

Particularly, the empirical case analyzed in this work denotes the third hypothesis by Princen and Rhinard of two agenda-setting processes occurring simultaneously: concerns about food waste started in the European Commission as a consequence of the work regarding waste management and disposal, which organic and biodegradable waste constituted a significant part, and later proceeded in the European Parliament, where claims regarding the issue started with reference to food waste as a phenomenon that must be strategically prevented. The analysis shows also how the framing of an issue is deeply linked with the venue that becomes interested in that issue (Baumgartner and Jones 1993), given the two different framings that came out from the European Commission and the European Parliament, and also how the European Union is proving to be the ideal venue to start the most effective action to put a limit on this growing problem, by coordinating EU internal market and Member States.

The application of Kingdon's multiple streams model to the case of food waste has been significant for a better understanding of the dynamics behind the route of food waste, especially by evidencing the key role of policy entrepreneurs in promoting the issue at European level. The analysis also helped in further explaining the double framing of the issue and in deepening the alternative specification process analysis.

Limitations of the work

Contingency reasons are at the base of the limitations of the work.

A wider policy cycle analysis has not been realized due to the lack of a proper EU policy on food waste, even if the ongoing work in the EU is pointing in that direction, and the future seems quite welcoming for a specific and dedicated action at European level. This is especially confirmed by the creation of the FUSIONS project that aims at harmonizing any future policy on the subject, whose interactions with the SAVE FOOD project by FAO would also be interesting as a matter for further analysis.

Unfortunately, I have not been able to interview anybody from the DG Environment of the European Commission, which is historically in charge of dealing with the food waste issue in the EU and is leading in the ongoing work of the Commission. It would have been extremely useful to have their contribution about the process of issue framing in past and current work of the Commission and about the role of the EU in managing the issue along the EU27. Generally speaking a larger number of interviewees would have given a stronger validity to the agenda setting analysis.

Theoretical implications

This work contributes in accounting useful theoretical implications in the field of agenda-setting analysis.

Firstly it provides a complete panorama of the state of food waste in the European Union, considering the most important documents and the ongoing work from institutions and research point of view, showing interactions and common ground among them. A basis has been established for any future work on the analysis of food waste policy cycle.

Furthermore the work demonstrates how the relevance of an issue in EU agenda setting mainly depends on which European venue is currently paying some attention to that issue. Public involvement proves to be not very decisive, since the only channel available for public voice is through European elections but the slight affluence decrease their significance. It is also demonstrates how distinct venues lead to different issue framings, due to their singular receptiveness and function.

Above all the work reinforces the hypothesis by which agenda setting processes in the EU are barely ever an exclusively *high* or *low politics* matter, but often involved both routes in variant moments and scales, finally creating distinct paths in which multiple venues operate in supporting the same issue. Indeed EU institutions are used to work contemporarily on the same subject but in different ways.

Finally, the work confirms that Kingdon's multiple streams model can be also applied to the European Union decision making environment, and can be used to describe the path of a policy that has not occurred yet, by arranging the elements that should find their political momentum in the future.

Appendix

A. Interview protocol

Following the interview questions for each identified category.

(1) European Commission

1. What is your role in the European Commission and what is you work about?
2. What is your work about food waste?
3. Let's consider food waste as an emerging issue. Do you think there are enough elements to define it an issue that could worth a place in EU decisional agenda?
4. Talking about real projects, I want to ask you about the ISG on sustainable food: how's the work in progress and what is the point reached.
5. Let's now consider the part of solutions: in DG ENV preparatory study a set of policy proposals is listed. What is their role in the current work of the Commission on food waste?
6. What is the FUSIONS project about?
7. At the end of its report, the European Parliament calls for 2014 as the European year against food waste. Is it likely to be chosen by the Commission? Which are the advantages/constraints to the food waste issue?
8. Are there any more points that might be useful and you wish to tell me about?

(2) European Parliament

1. Please shortly introduce yourself and your institutional role.
2. In which terms you consider the issue of food waste as crucial for the EU.
3. I would like to investigate the nature of your involvement in the issue of food waste.
 - a. Were the issues of food waste and sustainability part of your election programme in 2009?
 - b. Did you have a personal interest in the matter or your involvement is due to your role in the Committee on Agriculture and Rural Development or were you involved by Prof. Segre? Please motivate your answer.
 - c. Were you therefore involved in the project "A Year Against Waste" and the consequent conference "Transforming Food Waste into a Resource"? Please motivate your answer.
4. Was the parliamentary resolution determinant for food waste insertion in the "Roadmap for a Resource Efficient Europe"?
5. Which is the role of the European Union in facing the issue of food waste?
6. Which are the perspectives of the issue of food waste in the European institutional landscape? Do you see any chances that the year 2014 will be chosen as the European year against food waste?
7. How do you think that the issue may be included among the "urgent issues" of the European Union? Are there any reasons of political nature that will not allow it or simply there are more important issues on the table?
8. What would lead to respectively the adoption of the Communication on Food Sustainability and the approval of the European year against food waste?

(3) Academy and Research

1. Please shortly present yourself and your role in your organization.
2. (*Only for interviewees from the University of Bologna*) Did you participate in the "One Year Against Waste" initiative?
 - a. What were the main institutional objectives at EU level of the cited initiative?
 - b. Which were the results of the Joint Declaration on EU level?
3. I would like to examine in depth the origins of the FUSIONS project.
 - a. Whose was the initiative (Wageningen or EU)? How did it start?
 - b. Which are the main purposes and goals of the project?
 - c. Why is the media diffusion so little?
4. I would like to discuss the future implications of the project.
 - a. Is FUSIONS related to the current work of the European Commission on Sustainable food or is it likely to be in the future?
 - b. Is there any collaboration with the SAVE FOOD project?
5. The European Commission is currently working on a Communication on Sustainable Food; at the moment they are considering as policy proposals those reported in DG Environment's study. I want to know if you are aware of these policy proposals and if you deem them as appropriate and complete or not.
6. Which are the different contributions the European Union might give if compared with Member States in a specific initiative or policy on food waste?
7. (*Only to the FAO interviewee*) Which are the different contributions that the EU and the FAO can give to the cause of food waste? Please motivate your answer.

(4) Activism

1. Please shortly present yourself and your organization.
2. What have been the personal reasons that lead you to dedicate most of your time to the cause of food waste?
3. Your campaign has obtained great results at national level. Please tell me what could be the role of EU in the fight against food waste.
4. Were the conference “Transforming Food Waste into a Resource” and the subsequent “Joint Declaration Against Food Waste” crucial for food waste to grow in the EU agenda? How was its situation before?
5. Let’s talk about the FUSIONS project: how did it started and whose was the initiative.
 - a. Did you and the other representatives of campaigns ever try to do a network before?
 - b. Why is the media diffusion so little?
 - c. Are there any mid-term goals?
 - d. Did it start from the EU or was it someone else’s initiative? Was it a consequence of the Declaration?
6. Among the FUSIONS project and the SAVE FOOD project, which is the one you consider the most likely to be effective and useful in the future?
7. Did the Members of the European Parliament that sustain your movement put pressure for food waste in the EP?

B. Interviewees list

Each interviewee is accompanied by a number which identifies its relative interview category.

Birgit Van Toengelen (1), European Commission DG Health and Consumers, E6

Person in charge for the management of food waste related projects in the DG Health and Consumers, previously worked in DG Environment, now part of the Unit E6 on innovation and sustainability of the food chain.

Selina Juul (4), Stop Spild Af Mad (Stop Wasting Food movement Denmark)

Founder of the Danish movement Stop Wasting Food, which has obtained significant results in Denmark and great voice at international level, both in the EU and in FAO.

Salvatore Caronna (2), European Parliament, S&D

Member of the European Parliament and substitute member of the Committee on Agriculture and Rural Development responsible for the approved parliamentary resolution on food waste.

Silvia Gaiani (3), University of Bologna

Researcher of the University of Bologna, co-author of the book “Transforming food waste into a resource”, active member of the FUSIONS project and currently cooperating in assessing the first phase of the project.

Sophie Eastel (3), Waste and Resources Action Programme UK

FUSIONS project contact person in WRAP. Works in the field of food and drink, particularly about food waste generation along the food supply chain.

Luca Falasconi (3), University of Bologna and Last Minute Market

Researcher both for the University of Bologna and for Last Minute Market, of which he is a co-founder; works on the elaboration of new services for products recovery to be sold to firms.

Felix Mittermayer (1), European Commission DG Health and Consumers Dir. E

Economic consultant in DG Health and Consumers provides information and guidelines for the elaboration of impact assessments, involved in the ISG on Sustainable Food.

Eric Poudelet (1), European Commission DG Health and Consumers Directorate E

Director of the Unit E on the safety of the food chain in DG Health and Consumers, unit in charge for the work on food waste.

Hilke Bos-Browers (3), Wageningen University

Project managers of FUSIONS at the Wageningen University, works for the food and bio-based institute, is project leader on sustainability, with specific focus on fresh food and food change.

Camelia Bucatariu (3), Food and Agriculture Organization

Policy development Consultant for SAVE FOOD project.

C. FUSIONS project partners

- Wageningen UR (Netherlands) Coordinator and leading multi-stakeholder platform workpackage
- WRAP (UK) (www.wrap.org.uk) leading feasibility study work package
- University of Bologna (Italy) leading food waste policy work package
- SIK (Sweden) leading harmonisation of food waste monitoring work package
- INRA (France)
- BIO Intelligence Service (France) leading communications work package
- Ostfoldforskning (Norway)
- Stop Wasting Food / Selina Juul (Denmark)
- Universität für Bodenkultur Wien (Austria)
- Institute for Food Research (UK)
- Food and Agriculture Organisation of the UN - FAO (Italy)
- IVL (Sweden)
- MTT (Finland)
- Hacettepe Universitesi (Turkey)
- Hungarian Foodbank Association (Hungary)
- Development Agency of Eastern Thessaloniki's Local Authorities (Greece)
- Universität Hohenheim (Germany)
- Last Minute Market (Italy)
- Koninklijke Ahold (Netherlands)
- Communiqué (Denmark)
- Tristram Stuart (UK)

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