

**Modalidade do trabalho:** Ensaio teórico

**Evento:** XXI Jornada de Pesquisa

## THE FOOD WE THROW AWAY<sup>1</sup>

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### Introduction

First of all, we have to make a definition of food waste and food losses. The first refers to ( ) products that are directed to human consumption, excluding feed and parts of products which are not edible (GUSTAVSSON et al., 2011, p.2). On the other hand, food losses take place during the production, harvest and processing stages (PARFITT et al., 2010).

As highlights BCFN (2012), one of the main causes of the origin of food waste is due to the progress in agriculture, new cultivation techniques and entrance of industry about the 20th century, since the way of food production started to change to a faster direction being able to increase the quantity and improve the quality of food, so that more and more people would have access to it. But here s the problem, as the increase of quantity and quality of food was getting higher, the price unlike was getting lower and therewith people started to have more purchase power and food became progressively driven to the tolerance of wasting.

In according with the Waste Resources Action Program (WRAP, 2009, p.4), there exist three different definitions for food waste:

Avoidable: food and drink thrown away that was, at some point prior to disposal, edible (e.g. slice of bread, apples, meat). Possibly avoidable: food and drink that some people eat and others do not (e.g. bread crusts), or that can be eaten when a food is prepared in one way but not in another (e.g. potato skins). Unavoidable: waste arising from food or drink preparation that is not, and has not been, edible under normal circumstances (e.g. meat bones, egg shells, pineapple skin, tea bags).

The expression food waste means the food that was bought but not consumed and as a result ends up in the garbage (BCFN, 2012). Just for the curiosity if we go to a dictionary and look for the word waste we will probably find synonyms like misspend, squander, expend, despoil, perish, consumption, destroyed, unused, etc, and expressions like spend without an adequate return, anything unused, unproductive, or not properly utilized (DICTIONARY.COM, n. d.). By all these synonyms we might be able to figure out that the word suggests a sort of misapplication of something. In this case the misapplication goes to the subject food which has to be treating in a very responsible and sustainable way in our society today.

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### Methodology

This article arises from a bibliography analysis and its intention is informing key features about food waste in the modern society. In addition, this paper is seeking to intensify our critical sense to reflect on the food concept and the ways in which is wasted.

### Results and Discussion

Food waste and loss are huge. Researches confirm that about one-third of the global food produced for human consumption is wasted or lost by producers, distributors, retailers and consumers (UNEP, 2012). By this context, professor Per Pinstrup Andersen gives his contribution saying that If food was as expensive as a Ferrari, we would polish it and look after it (HEPKER, 2014). Thus, in this expression he is trying to demonstrate how important the food should be, it also represents the value and significance of taking care of our food and do not make squandering because nobody lives without food so we got to be conscious about this issue.

However, many scholars believe that such measure it is not enough to end hunger in the world. Among them we could mention Ulrich Koester (2012) who understands that people who are suffering for starvation, especially in poorer countries, is because they do not produce enough quantity and quality or they do not possess sufficient purchasing power to buy food. By this bias is comprehensible that reducing food waste in the rich countries would not modify significantly the hunger conditions on the poorer countries.

Nevertheless, in the developed countries what is frequently seen is an overeating production versus nutritional requirements, in other words, ( ) consumption in developed countries far outweighs the caloric requirements recommended by international organizations, placing excess weight and obesity ( ) (BCFN, 2012, p.20), and as a consequence what happens is while one side of the world is suffering by obesity, struggling to lose weight and trying to get healthier, the other side is suffering by hunger, so it is clearly disproportional. People are always saying that we need more and more production to feed the world but it is not a question of production, it is a question of better distribution. Now, the challenge is to make a balance between these two sides of the world making possible a more equal distribution of food.

By this concept, the expressions of food security and access to food lead to a social aspect about the availability of food in some parts of the world. First, it suggests that every country has the right to get food in quantities that will satisfy the nutritional requirements of its population and also guaranteeing an adequate nutritional pattern for the population s health. However, it is not as simple as it seems to be because there are some countries which by reasons like inappropriate soil to cultivate crops, poverty, conflicts, scarcity of natural resources etc, can not reach this pattern of access to food, insomuch that

( ) there is indeed a strong correlation between areas with a high percentage of malnourished populations and areas with high percentages of extremely poor people, indicating how poverty can prohibit people from being either able to produce or buy enough food for adequate health. A similar correlation can be seen between the areas with a dry climate and poor availability of water and high malnutrition levels. In societies where availability is abundant and access to food is guaranteed, we see the increase of food waste from overeating. The number of people who have a higher caloric intake than is necessary is, in fact, increasing, contributing to the obesity phenomenon. (BCFN, 2012, p.79).

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Food waste also brings unnecessary CO<sub>2</sub> emissions which is already a huge problem for the environment. Beyond all these consequences food waste also brings with itself a bunch of losses such as energy, water, soil, equipment, labor and investments, so the impact does not only reflect to the environment but also to the economy. Therefore, food waste should be adopted as a last resort and be done in the most minimal possible way.

Out of curiosity, what has been more witnessed in our environment today about food waste is the fact that food production is one of the highest consumer of the natural resources and wide emitter of pollutants gases which means that the impacts caused on the environment, principally regarding to the global warming, are tremendous.

As emphasize experts, another problem relates to the necessity of expanding the capacity of landfills to deposit all this wasted stuff and as a consequence it generates methane which contributes consistently for the global warming and climate change (STERN, 2007). It is calculated that ( ) the processing sector is responsible for 73 % of greenhouse gas emissions linked to the discarding of food in household ( ) (PRIEFER et al., 2013, p.84).

Moreover, we can also find a classification of the types of the food waste. Generically, there exists a dimension for each type of food waste like agricultural production, post-harvest handling and storage, processing, distribution and finally consumption (GUSTAVSSON et al., 2011).

By this follow-up, when we are going to talk about farming we have to keep in mind that there are several occasions when the food losses can appear (SEARCHINGER, 2013). In a first moment, most of the times is difficult to farmers know exactly the amount of plants, vegetables, fruits, seeds and animals that they have to produce and grow respectively to match precisely to the demand. In a second moment, there are lots of challenges such as bad weather, damage caused by different types of diseases and pests that often attack their crops which makes sometimes impossible to harvest some parts of their crops, leaving as a consequence an amount of food lost (GUNDERS, 2012).

In the manufacturing and processing stage the losses may occur when the food is washed, peeled, sliced and boiled. On the other hand, during the process of distribution losses succeed due to packaging defects, expiration of the dates, inadequate stock management etc. Finally, in the phase of consumption the losses may raise due to consumer behavior, inadequate storage, cooking of oversized meal without knowing how to reutilize or recycle the leftovers and sometimes wrong interpretation of expiry dates. All these are the most common factors of how food is lost during the food chain (PRIEFER et al., 2013).

Thenceforth, as Ventour (2008) points out, we are all responsible for the food waste and most of the reasons why we waste so much food generally refer to the different types of food we choose or in other cases simple things like when we left food over from coking, the rests from a meal, when it passes its date or when it looks, smells or tastes bad.

In a sense is acceptable to say that there are several reasons why food somehow is discarded. By all this information we may become aware that the food waste is a huge challenge to combat, in other words, as we are all responsible in some point for the food waste/lost so we have the obligation to reduce our own waste and try to find others alternatives to overcome this problem, being fundamentally necessary to adopt measures that can really help to reduce significantly the food waste/lost around the world. Otherwise, they can surely cause food losses/waste.

Therefore, it is important to know that in some cases regulations can represent a substantial hazard in front of the wastage of food. As an example, in Europe, private regulations were known as the

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biggest reasons for throwing away food due to strict hygiene rules which was responsible for provoking an enormous rejection of all kinds of food, from vegetable and fruits to meat and eggs (HLPE, 2014).

As underline HLPE (2014, p. 54. apud FAO):

The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. Food safety authorities worldwide have acknowledged that ensuring food safety must not only be tackled at the national level but also through closer linkages among food safety authorities at the international level. Lack of coordination of policies at regional level can be an important cause of FLW (FLW: Food Loss or Waste).

Find new methods to cope with this question in an international way are doubtless necessary as well as promoting sustainability on the food systems. Thus,

( ) deciding what strategy to adopt, at individual and collective level, adapted to specific contexts, which can be very diverse between countries, necessitates a thorough analysis of causes and the consideration of winners and losers, and of costs and benefits for all involved. It also necessitates the promotion of individual and collective action of many actors along the food chain, and in support of them. (HLPE, 2014, p.89).

The States have a special role to take smart actions to reduce wastage of food, for example, investing in infrastructure, taking measures against waste, investing in research and development in technological innovations to minimize food waste, among other initiatives.

So, the challenge now is to find out strategies that can contribute to cut down the waste/lost food by inserting programs, developing projects and promoting campaigns. But first of all, we all have to be aware that there already exist two ways to tackle with waste/lost food, the voluntary and the statutory. The first is broadly expected, while the second is seen critically principally by the food industry, which argues that intense competition would conduct to close cost management of food waste/loss (PRIEFER et al., 2013).

Another thing we could do to reduce the waste/loss food would be the implementation of a redistribution food system which, according to Lipinsky et al. (2013, p.12),

( ) are a method for reducing both food loss and waste. ( ) means voluntarily giving away food that otherwise would be lost or wasted to recipients such as food banks, which then redistribute the food to those who need it. This strategy applies at the production stage with crops that otherwise would go unharvested, at the manufacturing stage with overproduced products, and at the distribution and market stage with food left unsold at stores and markets.

Beyond the redistribution, there exist several other ways to deal with wastage/lost of food. Implementation of metal silos could save and storage a lot of grains and cereals that are wasted/lost every year through the insufficient storage and inappropriate harvesting techniques especially in developing countries where farms often do not keep harvested crops in good conditions.

Plastic crates as a form of containerization has shown significant reduction in food losses during storage, particularly among fruits, vegetables and other fresh products.

Food date labeling provides consumers information regarding safety of foods and as a consequence it can clarify the interpretation of the readers equally reducing wastage of food.

Another interest thing that could be done is the promoting of campaigns in a try to create awareness and consciousness towards the consumers regarding the amount of food that is wasted in



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households. This simple attitude may bring positive results in terms of guiding consumer attitudes and behavior about the food that is throw away.

Reduce portion sizes brings positive outcomes, too. According to Lipinsky et al. (2013, p.26) ( ) since larger portions increase the likelihood that a consumer will not consume all of the food purchased. Reducing portion sizes for consumers in both direct and indirect ways can both decrease food waste and save money for food providers.

Finally, it is doubtless important to know that reducing food waste requires action from a plurality of groups such as farmers, food companies, retailers, consumers and policymakers as well. By this scenario it demands changes in technologies, practices, policy and behavior which means that no individual group can confront the problem alone, but the key word here is cooperation from each group so that all together are able to effectively win this battle (LIPINSKY et al., 2013).

### Conclusions

It is absolutely perceptible that food waste brings enormous consequences for our society, healthy, economy and environment. Therefore, we have the responsibility to prevent this kind of problem figuring out what measures would generate positive results and find solutions that can help us and make our lives more enjoyable. Our politicians also have a huge responsibility and we have to charge them because they have the power of taking decisions that can diminish food wastage.

**Key words:** Food lost; Food waste; Food security

### Bibliographic references

BCFN. Barilla Center for Food and Nutrition. Food waste: causes, impacts and proposals. Europe, 2012.

DICTIONARY.COM. Waste. Available in: <<http://www.dictionary.com/browse/waste>>. Access: 23 may 2016.

GUNDERS, Dana. Wasted: How America is losing up to 40 percent of its food from farm to fork to landfill. Natural Resources Defense Council, 2012.

GUSTAVSSON, Jenny; CEDERBERG, Christel; OTTERDIJK, Robert van; MEYBECK, Alexandre. Global food losses and food waste: Extent, causes and prevention. Food and agriculture organization of the United Nations: Rome, 2011.

HEPKER, Caroline. Food waste reduction could help feed world s starving. Jul 3, 2014. Available in: < <http://www.bbc.com/news/business-28092034>>. Access: 23 may 2016.

HLPE. Food losses and waste in the context of sustainable food systems: A report by The High Level Panel of Experts on Food Security and Nutrition. Rome, 2014.

LIPINSKI, Brian; HANSON, Craig; LOMAX, James; KITINOJA, Lisa; WAITE, Richard; SEARCHINGER, Tim. Reducing food loss and waste. World Resources Institute, Washington DC, Working Paper, June 2013.

KOESTER, Ulrich. Discarding food vs. starving people: Inefficient and immoral. Germany, 2012.

PARFITT, Julian; BARTHEL. Mark; MACNAUGHTON, Sarah. Food waste within food supply chains: quantification and potential for change to 2050. 2010.

PRIEFER, Carmen; JÖRISSSEN, Juliane; BRÄUTIGAM, Klaus-Rainer. Technology options for feeding 10 billion people: Options for cutting food waste. Brussels: European Union, 2013.

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STERN, Nicholas. The economics of climate change: The Stern review. United Kingdom: Cambridge, 2007.

UNEP. Avoiding future famines: Strengthening the ecological foundation of food security through sustainable food systems. A United Nations Environment Programme UNEP synthesis report, 2012.

VENTOUR, Lorryne. The food we waste. WRAP and Exodus Market Research: United Kingdom, 2008.

WRAP. Household food and drink waste in the UK. United Kingdom, 2009.