

## ***Food Loss and Its Prevention***

(A summary of the study conducted by the Food and Agriculture Organization (FAO) of the UN)

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*(Image Source: [slogansmotto.com](http://slogansmotto.com))*

## Loss of Food – How and Why?

Food, as we all know, is a very important resource for every living being. It constitutes one of our basic needs for survival. Still, there is huge amount of food that is getting wasted throughout the world every single day. Discarded food goes to landfills where it produces methane gas which is the second most common greenhouse gas. So, throwing away food not only incurs financial loss but also results in climate change.

In 2011, The Food and Agricultural Organization (FAO) of the United Nations estimated that approximately 1.3 billion tonnes of consumable food is wasted every year around the world, and more so in developed countries. In terms of percent waste, this can be categorised as:

- 45% of all fruits and vegetables
- 45% roots and tubers
- 35% of fish and sea-food
- 30% of cereals
- 20% of dairy products
- 20% of meat
- 20% oil seeds and pulses

A major proportion of this wastage occurs at production and retailing stages as compared to the final consumption stage.

The world is gradually waking up to the gravity of this wastage and in 2015 the United Nations SDG's included halving the per capita wastage of food at retail and consumer levels by 2030. It also aims at reducing the food losses along the production and supply chains

The FAO's 2011 estimate is now being replaced by two separate indices:

- **Food Loss Index (FLI):** The FLI estimates the food losses from post-harvest stage to pre-retail stage. It does not include the wastage that occurs at retailing stage and according to this index, almost 14% of the world's food is lost before retailing.
- **Food Waste Index (FWI):** The FWI provides estimates for the food wasted at retail and consumption level.

Even though, the terms Food Loss and Food Waste can be used interchangeably but they connote different meanings.

Food loss is the decrease in the quantity or quality of food that results from the decisions and actions taken by food suppliers in the chain. This does not include the retailers, food service providers and consumers. It includes any food that is discarded or disposed of from harvest, slaughter, or at other steps along the supply chain and is not included in any productive usage such as seed or feed.

Food waste refers to the decrease in the quantity or quality of food that result from the decisions and actions taken by retailers, food service providers and consumers. Food can be wasted in many ways such as:

- Removal of food during the sorting phase if it does not meet up the standard benchmarks for size, shape, or colour.
- Removal of food that is close to, at, or beyond the 'best before' date by retailers or consumers.
- Discard of large quantities of unused or leftover wholesome edible food from household kitchens and eating establishments.

## Food Wastage Statistics Around the World

It is often surprising to know, how much of the food we buy goes straight from the refrigerator to the bin. Many countries around the world are wasting millions of tons of food each year due to stock piling, spoilage, or just behavioural reasons.

The bar-graph on the next page shows the per capita food losses at different stages in different regions

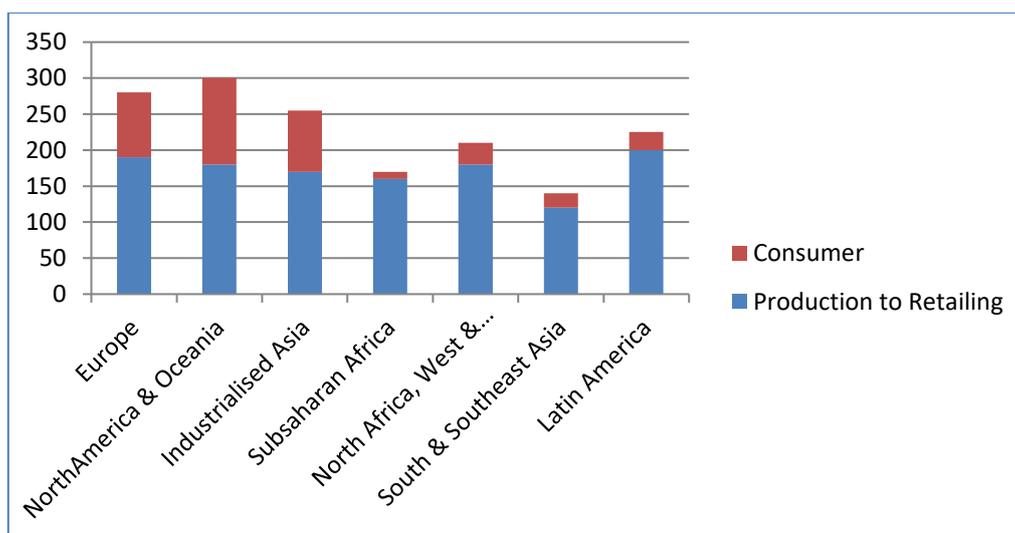


Fig 1: Per Capita Food Losses & Waste (Kg/year)

As the above chart depicts, the per capita waste by consumers is between 90 to 100 kg a year in Europe and North America whereas in Sub-Saharan Africa, and South/South-East Asia, the per capita wastage is around 6-12 kg a year.

Check the link below to see country wise per capita waste of food:

<https://www.magnet.co.uk/advice-inspiration/blog/2018/February/food-waste-around-the-world/>

The causes of food waste in any particular country relate to its local conditions. But FAO has identified a pattern. According to this pattern, in richer countries the loss is greater in the downstream part of the food chain i.e. at the consumer level.

On the other hand, in developing or less affluent countries, the loss is greater in the upstream part i.e. at post-harvest and in early stages of supply chain.

There are many factors that play a part in setting off this pattern such as harvesting techniques, storage and transport facilities, infrastructure, consumer behaviour,

In affluent nations, at the consumer level wastage is more because of excessive buying and more than the required concern for 'Best Before Dates'. In these countries, the per capita disposable income is high and so people sometimes buy food items in bulk and may not use all that is bought before its specified expiry date. As a result, the excess or the leftover food usually goes in trash.

In poorer nations, the harvesting technology as well as storage infrastructure is not so advanced. In addition, there are logistical issues, which at times hamper the on-time delivery of food items to retailers. This delay adversely affects the quality of food products, especially perishable items such as fruits and vegetables.

## Steps to Reduce Global Food Loss

The World Resources Institute, a global research organization, has identified certain strategies. Some of these strategies cut food loss 'Close to the Farm' and some others prevent waste 'Close to the Fork'.

### Reducing Wastage Close to the Farm:

1. **Improved Storage Methods:** The small-scale farmers in developing world can adopt some simple, low-cost food storage methods to avoid food loss due to pest infection and transportation. For instance, the researchers at Purdue University have developed a system in which grains can be stored in three interlocking plastic bags. These bags not only prevent pest infection but also keep the grain fresh for months. In addition, the FAO has built more than 45,000 metal storage silos in 16 countries. Each silo is big enough for use by a single farmer and helps reduce the food loss at storage stage to almost zero.

2. **Redistributing Food:** Often the food is wasted if the farmer is not able to harvest the whole field for lack of resources or if the retailer has bought food more than what is in demand. The leftover or the excess food can be redistributed to food banks or other voluntary organizations. For example, in 2012 an Australian organization, **SecondBite**, redirected almost 3000 metric tonnes of food to community food banks.

### Reducing Wastage Close to the Fork:

1. **Better Food Date Labels:** The Waste and Resources Action Program (WRAP) in the UK conducted a survey on the usage of confusing date labels such as 'Use by', 'Best Before', 'Sell By' etc. According to this survey, one-fifth of the food thrown out by households is incorrectly perceived as being out of date because of these labels. Retailers can avoid this confusion by removing the 'Sell By' label, which is not really meant for consumers.
2. **Reduce Portion Size:** Often, the customers are not able to finish all what they have ordered and this leads to huge amount of food getting wasted. Restaurants and other eating establishments can help reduce food wastage by offering smaller portion size on their menu. An interesting strategy to reduce food waste was adopted by Michigan's Grand Valley State University. It introduced a tray-less system in its cafeterias. As a result, students ordered only as much as they could carry in hands and over the course of a year, it was found that each student was wasting 56 pounds less of food as compared to previous year.
3. **Launch Consumer Awareness Campaigns:** An important reason for food loss is lack of awareness among the general public, regarding the amount of food being wasted across the world. Therefore, retailers and grocers can run awareness campaigns that reveal statistics on food wastage and also provide simple solutions to avoid the same. For example, the Co-operative Group in the UK print storage tips for fruits and vegetables directly on their plastic packs.

## Global Initiatives to Prevent Food Wastage

As food loss occurs at every stage of food cycle, therefore it needs concrete efforts by all involved at different stages. Some of the initiatives taken by the countries around the world are:

- France has banned supermarkets from disposing of unsold food. This unsold food is donated to charities and food banks.
- ReFED: This is a collaboration of more than 30 business, non-profit, and government leaders committed to US food waste by more than 20%. It was formed to build a different future where food waste prevention is designed as a strategy that can save resources, create jobs, alleviate hunger, conserve water and reduce greenhouse gas emissions. It offers 27 solutions the cost of which outweighs the benefits they provide. To read more about this, go to: <https://www.refed.com/?sort=economic-value-per-ton>
- WRAP (Waste and Resource Action Program): This is a UK based organization that creates the *Love Food Hate Waste* program to educate and instruct people about food waste prevention strategies.
- Italy offers tax breaks to supermarkets that donate their waste food to charity.
- The *Real Junk Food Project* creates cafes in the UK that serve restaurant standard food from produce headed to landfill.
- The Australian government has decided to invest 1.2 million dollars over two years to support food rescue organizations. The government has come up with a *Food Rescue Charities Program*, which aims to support SecondBite, FareShare, OzHarvest, and FoodBank Australia.

Similarly, many other countries such as Dubai, South Korea, Norway, and Denmark have also taken important measures and formulated policies to prevent food waste. To read more about these initiatives around the world, go to:

<https://blog.winnowsolutions.com/how-governments-around-the-world-are-encouraging-food-waste-initiatives>

All the above-mentioned government initiatives work at a macro level but we as individuals can significantly help in reducing food loss. Some of the ways in which food waste can be prevented at a micro level are:

- **Shop Smart:** It is important to buy realistically when we go for grocery shopping. Often, the retail chains come up with lucrative offers to attract customers but that is where, we need to use our judgement and buy only as much as we need. One simple way is to have a handy list of items that are actually needed so that over stocking is prevented.
- **Save and eat leftovers:** Often, while at a restaurant, we tend to order more than we can eat. In such situations, it is better to get the leftover food packed and bring it home to be consumed later.

- Store food right and tight: Often the food gets spoiled because of wrong storage. It is important to make sure we are using right kind of containers or plastic bags that can keep the food fresh for long. It is important to know what kind of fruits and vegetables go in refrigerator and what has to be kept outside. This also prevents food spoilage.
- Separate food that produce Ethylene gas: Some food items such as banana, avocado, tomatoes, peaches, pears, and green onions produce Ethylene gas during ripening. Such food items should be kept separately to prevent spoilage of Ethylene sensitive produce such as potatoes, apples, leafy greens, berries, and peppers.
- Preserve food through pickling, fermenting, and canning: Food preservation techniques have been used for thousands of years. These techniques not only save money but also reduce carbon footprint and can be fun too.
- Keep a check on portion size: Taking small portions especially when trying out a new food item not only keeps us fit and healthy; it also prevents food waste.
- Use non-edible food parts as home-made cosmetics: Some food parts such as avocado skin, lemon peel can be effectively used to make face masks. Similarly, used tea bags or excess cucumber slices can be used to reduce puffiness in the eyes.
- Avoid clutter in refrigerator: It is important to keep our refrigerators as well as pantry decluttered. Check it from time to time and adopt the 'First in, first out' rule. The items which were brought earlier should be in front so that they are more visible to the eye and can be used first.
- Keep check on expiration and Best Before date: These dates actually provide guidance as regards to food quality and not food safety so it is better to use our own judgement at times. Instead of simply throwing away an item if it has just passed its expiration date, it is advisable to use our sense of taste and smell to check if it is still consumable.
- Make compost: Sometimes the fruits or vegetables are not good enough to be eaten but can be turned into compost instead of directly throwing in trash. This way we can generate nutrient-rich fertilizer. But this should not be the first solution. As per the food recovery hierarchy suggested by EPA, first reduce the waste that is created, next donate food to food banks or try to feed the livestock, thirdly use waste to generate industrial energy, and lastly go for composting.

There are endless ways in which we can reduce, reuse, and recycle food waste. This is important to curtail the spread of the global epidemic of food loss. It is important to work collectively and think realistically. So many people around the world are dying of hunger whereas lot many others are wasting thousands of tonnes of food every day. This wasted food goes to landfills and cause other environmental problems. It's time we get together and start taking concrete steps to keep our planet clean and our plates full.

*“Throwing away food is like stealing from the table of those who are poor and hungry.”*

**Pope Francis**



(Image Source: pinterest.com)