



Food and Agriculture Organization
of the United Nations

Grown for a bin

A project on
food waste

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Think of a random item of food. An orange, for example. This orange, cultivated on a plantation in South Africa, is harvested and transferred to Europe by plane and truck over a distance of 15 000 km, sold in a supermarket and, finally, although still in good condition, discarded by the consumer. Fiction? Fact! Waste of food around the globe has increased to worrying dimensions: according to a study commissioned by the Food and Agriculture Organization of the United Nations (FAO) and carried out in 2011¹, one-third of all food products are lost or wasted worldwide, while world hunger is on the rise.

The series of photographs “Grown for a bin” highlights the issue of food waste and offers an insight into its causes, which range from geopolitical factors and cultural aspects to individual consumer behaviour.



Global food waste and starvation - a contra- diction?



In low-income countries with high levels of food insecurity, food losses are often a more pressing problem than food waste. There, food is lost mainly as a result of problems during harvesting, storage, and the refrigeration and distribution of goods. In mid- and high-income countries, however, enormous amounts of food go to waste mostly during the later stages of the food supply chain, in particular the buying and selling practices of supermarkets and at households. Consumer waste is often caused by unplanned purchases, poor meal planning, excess buying (influenced by over-large portions, promotions and large package sizes), confusion over labels (best before and use by) and poor in-home storage. Other significant causes of avoidable waste are leftover food, wastage from cooking or perished food.

According to a recent report of the United Nations Environmental Programme², food waste from households, retail establishments and the food service industry totals 931 million tonnes each year, 61 percent of which – nearly 570 million tonnes – comes from households.

The same report estimated household food waste in Turkey at 7 762 575 tonnes per year, which amounts to 93 kg per person.

'Food Miles' – International transportation of food

The transportation of food products has increased massively in recent decades, driven by the globalization of trade. It is not unusual in industrial nations to find supermarket shelves stocked with goods from all parts of the globe. Consumers take for granted the constant supply of fresh fruit and vegetables throughout winter months, but may not realize that the transportation of these goods can cover vast distances and produce significant amounts of CO₂ and other greenhouse gases (GHGs).

The abundance and all-year-round availability of food, as well as growing demand as a result of the increasing global population, carries a considerable environmental cost, including climate change, land degradation, water scarcity, air and water pollution, and loss of biodiversity.



Another FAO study published in 2013³ estimated that:

- The global carbon footprint of food loss and waste, excluding emissions from land use change, amounts to 3.3 gigatonnes of carbon dioxide (CO₂) equivalent, corresponding to about 7 percent of total GHG emissions.
- This volume includes all GHGs emitted during production, transportation, processing, distribution and consumption, as well as emissions from waste disposal. Indeed, in many countries, most of the food that is lost or wasted is dumped untreated in controlled or uncontrolled landfills, where it releases GHGs. However, some waste management systems, such as anaerobic digestion, can actually generate energy and thus provide indirect GHG savings.
- The use of surface and groundwater resources attributable to food lost or wasted is about 250 km³, representing around 6 percent of total water withdrawals⁴.
- Almost 1.4 billion hectares, equal to about 30 percent of the world's agricultural land, are used to produce



food that is later lost or wasted⁵.

- Competition for land is projected to intensify in the coming decades due to population growth, changes in diets and consumption patterns, and growing demand for bioenergy. Most of the historic expansion of agricultural areas has come at the expense of forests, which play an essential role in environmental sustainability. Land use is therefore of critical importance in terms of climate change, biodiversity and ecosystem services.

Against this background, food loss and waste reduction is seen as a way to improve the environmental sustainability of global food systems.

Grown for a bin



Global food trade and individual consumer behaviour

As well as being embedded in global economic structures, wasteful consumer behaviour is also closely linked to the food industry and its modes of operation.

In high-income countries, for example, the tendency for supermarkets to put pressure on food producers to supply them with “perfect” products results in the common practice of goods being discarded and destroyed immediately after harvest because of minor imperfections. Additionally, it is not unusual for supermarket chains to purposefully acquire a surplus of food, so that shelves can remain fully stocked with perishable items (pastries, meat, fruit and vegetables) right up to closing time. Supermarket chains also dispose of a large amount of goods before they reach their sell by date, including those in perfectly satisfactory condition. The food retail industry, and supermarket chains in particular, therefore contribute to the destruction of an alarming amount of edible goods on a daily basis.



Food culture and food waste

“Eating” is not limited to the intake of food; it also incorporates an important social element. The activity of eating connects people across cultures and social classes: it unites people in what is often a communal and creative process. In high-income countries, culinary culture is also an industry focused on food, with a constant stream of accessories, new designs, cooking shows and new trends.

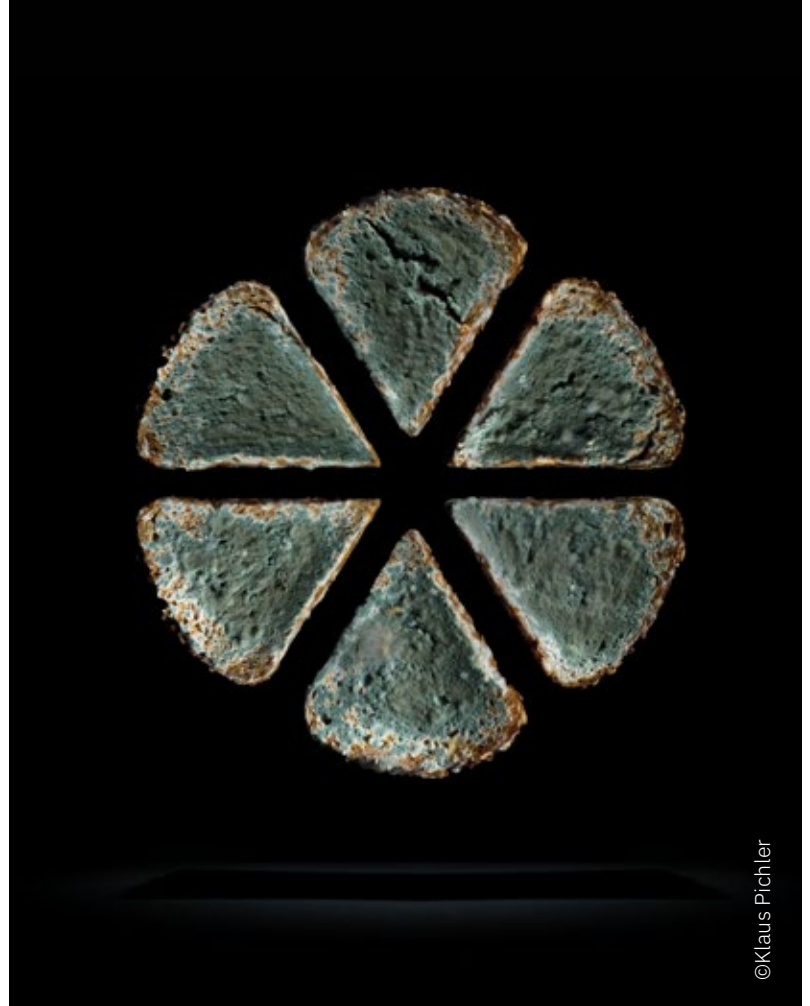
However, much less value is attributed to the food products themselves. These readily available goods are bought and used with any surplus simply disposed of. This outcome is usually caused by discount bulk buying in excessive quantities, discarding of leftovers without thought for whether they could form part of another meal, or wastage of products that have only just passed their sell by date, but remain in satisfactory condition. Lack of interest in where, by whom and under which working conditions the goods were produced, as



well as individual behaviour, often results in careless attitudes, especially among consumers who can afford to throw away good food.

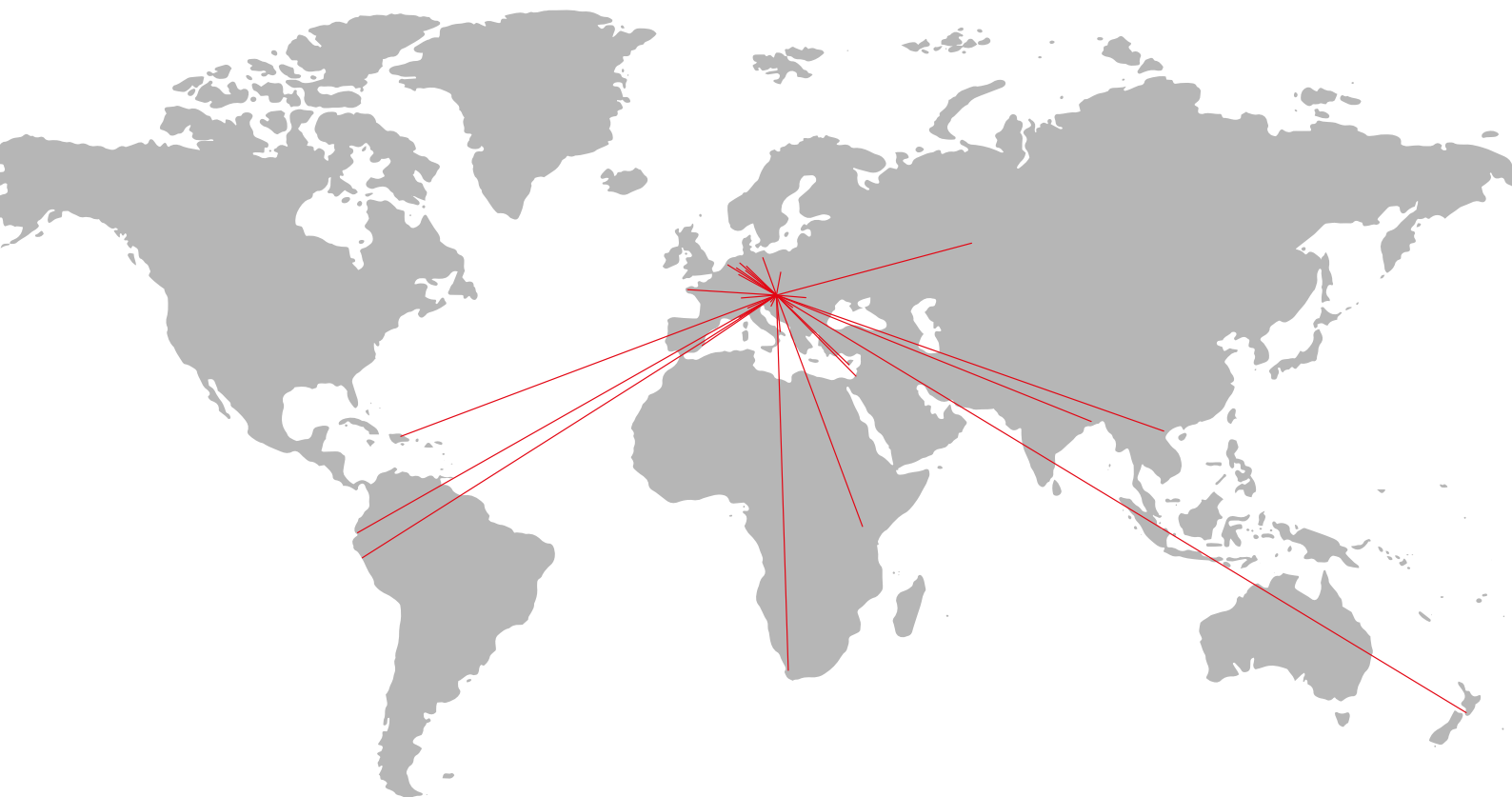
The title of the series, “Grown for a bin”, implies that a significant amount of food produced is destined never to be eaten.

The photographs in the series portray food that is no longer edible in various stages of decay. All the products were items of food for sale in supermarkets transported from different parts of the world, ranging from locally sourced products to some that travelled tens of thousands of kilometres. The majority are unprocessed food items as their origins and production methods can be more easily tracked and examined. With processed food this becomes more difficult, although the results can be particularly informative as the transport distances covered by the various ingredients add up to an extremely high number of kilometres. The pictured world map offers an overview of locations where the food was produced and their transportation routes before being sold in Vienna, Austria. While Vienna was chosen as the destination, it could be substituted for any city in the



industrialized world without major changes in transportation routes.

The routes of transportation of the food products, which were photographed for this project.



Map Source: Shutterstock. 2021. *Gray world map* [online]. [Cited 23 June 2021].
<https://www.shutterstock.com/image-vector/gray-world-map-vector-isolated-on-1892757289>

The boundaries shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

“Grown for a bin”



The selection of food products ranges from staple foods, dairy products, meat and cereals, to fruit and vegetables, sweets and exotic delicacies. It covers the whole spectrum of items found on our plates. The ingredients used for this project were all bought – predominantly in supermarkets – in order to be left to rot and finally disposed of after the photographs had been taken. This should be considered as provocative, as consumers do not waste food on purpose: such wastage “occurs” as an unwanted side effect.

Therefore, the extravagant way that food waste is depicted is intended to bring consumers’ attention to the issue and make them aware about their role in preventing it by changing everyday behavior and habits.

This project is dedicated to the workers of the global food industry.



Credits

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Footnotes

- 1- According to the 2019 edition of FAO's The State of Food and Agriculture, around 14 percent of the world's food is lost during production before reaching the retail sector. In addition, UN Environment estimated that 17 percent of total global food production may be wasted.
- 2- United Nations Environment Programme. 2021. Food Waste Index Report 2021. Nairobi.
- 3- Searchinger, T., Waite, R., Hanson, C., Ranganathan, J., Dumas, P. & Matthews, E. 2018. Creating a sustainable food future – a menu of solutions to feed nearly 10 billion people by 2050. Washington, DC, World Resources Institute (available at https://research.wri.org/sites/default/files/2019-07/WRR_Food_Full_Report_0.pdf).
- 4- High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE). 2014. Food losses and waste in the context of sustainable food systems. Rome.
- 5- Delgado, L., Schuster, M. & Torero, M. 2019. Quantity and quality food losses across the value chain: A comparative analysis. Unpublished background paper for The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction. Washington, DC, IFPRI.

The exhibition in Turkey is organized as part of the Save Your Food campaign of the “Reduction of Food Loss and Waste in Central Asia, Azerbaijan and Turkey” project, implemented under the FAO-Turkey Partnership Programme on Food and Agriculture.