# Food Waste and Rescue in Household Consumption

**NIS 8.8 billion worth of food waste in household consumption // NIS 3,500 worth of annual food waste per household in Israel**

In 2021, with the economy’s return to routine activity, household food consumption patterns returned to normal, and there was an increase in the amount of food consumed at restaurants, workplaces, events, etc. Therefore, at-home consumption decreased by about 2% compared to 2020[[1]](#footnote-1).

Accordingly, household food waste in Israel during 2021 amounted to approximately 950 thousand tons,[[2]](#footnote-2) valued at about NIS 8.8 billion. Beyond this direct cost, the environmental cost due to food waste in the household consumption sector stands at about NIS 1 billion[[3]](#footnote-3).

The average household in Israel wastes about 13% of its food expenditure, meaning the average family in Israel in 2021 wasted food valued at about NIS 3,500, or the equivalent of the food consumed in a month and a half. On a monthly basis, the average **household’s** financial loss due to food waste was NIS 275, with NIS 134 resulting from wasted fruit and vegetables, NIS 92 from wasted grains and legumes, NIS 46 from wasted meat, fish, and eggs, and NIS 23 from wasted milk and dairy products.

**Household Food Waste in NIS/Month**

|  |  |  |  |
| --- | --- | --- | --- |
|   | Monthly Food Expenditure in NIS/month | Monthly Food Waste in NIS/month | Waste Rate |
| Fruit & Vegetables | 610 | 134 | 23% |
| Grains & Legumes | 700 | 92 | 14% |
| Meat, Fish & Eggs | 625 | 46 | 8% |
| Milk & Dairy | 365 | 23 | 7% |
| Total | **2,300** | **295** | **13%** |

**Annual Household Food Waste – 2021**

|  |  |  |  |
| --- | --- | --- | --- |
|   | Waste in NIS Millions | Waste Rate | Waste in Thousand Tons |
| Fruit & Vegetables | 4.0  | 23% |  640  |
| Grains & Legumes | 2.7  | 14% |  170  |
| Meat, Fish & Eggs | 1.4  | 8% |  50  |
| Milk & Dairy | 0.7  | 7% |  95  |
| Total | **8.8**  | **13%** | **955**  |

**Rate of Household Food Waste for Selected Products**

Source: BDO estimates.

**The main causes of household food waste: preparing too much food and food expiration**

Household food waste is caused by the combination of consumer habits, the culture of abundance, and the way the food is stored and kept fresh at home. Household food waste in 2021 was approximately NIS 8.8 billion annually.

The main causes of household food waste are[[4]](#footnote-4):

**Preparing too much food -** preparing more than is needed, generally food that was cooked or prepared unnecessarily and was not consumed, often due to overbuying.

**Expired food** - food that expires before being fully consumed. It should be noted that expired food is connected to overbuying. The desire to have a variety of available food options, combined with the uncertainty surrounding the amount of food that will actually be consumed by the household members, creates a situation in which some of the food that was bought expires before it is consumed.

**Overbuying** – buying more food than is consumed, thereby increasing food waste. Staying home for long periods of time due to the waves of Covid-19 crisis and the transition to working at home led to an increase in household food consumption.

Other causes of food waste in household consumption include damaged or spilled food and food that was not prepared or cooked properly.

**Rate of Household Food Waste in Israel and Globally**

**Fruits & Vegetables**

**Grains & Legumes**

**Milk & Dairy**

**Meat, Fish & Eggs**

Household food waste is not unique to Israel, and waste rates in Israel are comparable to those in other developed countries. In Israel, as in other western countries, the highest waste rate is in the fruit and vegetables category, with 23% of the fruits and vegetables bought in Israel going to waste, compared to 28% in the United States and 19% in Europe. The relatively high waste rate for fruit and vegetables primarily stems from their short shelf life and the fact that households do not take measures to ensure optimal storage conditions.

In regards to meat, fish, and dairy products, the waste rate is lower and stands at approximately 8%. The lower waste rate for these products stems, among other things, from the fact that it is possible to extend their shelf life by freezing them, and because these products are more expensive per unit of weight, which creates an incentive for households not to waste them as much. The waste rate for these products is similar to that in Europe, and lower than that in the United States.

In the grains and legumes category, the waste rate is approximately 14%. This waste rate is the result of combining waste rates of products with a short shelf life such as bread and baked goods, and products with a relatively long shelf life, such as raw grains and legumes.

**NIS 6,900 annually per household: the overall impact of food waste on cost of living in 2021 in the household consumption sector**

In Israel, where household food expenditure is relatively high by international standards,[[5]](#footnote-5) food waste is one of the factors that contributes to the high cost of living. Food waste effects the cost of living due to overspending on food and by driving the cost of food up. The overall impact on cost of living is an additional NIS 6,900 per household annually.

**Food Waste: Effect on Cost of Living**

|  |  |  |
| --- | --- | --- |
|  | Annual Cost per Household in NIS | Impact on Food Prices |
| Cost of Food Discarded at Home | 3,600 | **-** |
| Cost of Collection and Landfill Disposal for Discarded Food | 200 |  |
| Impact of Greenhouse Gas Emissions and Air Pollutants | 210 |  |
| Increase in Retail Prices due to Food Waste in Supermarkets | 1,600 | **6%** |
| Increase in Wholesale Prices due to Food Waste in Agriculture and Industry | 1,200 | **5%** |
| Total | **6,900** | **11%** |

***Cost of living – Overspending:*** Food bought and thrown away as waste constitutes a direct household cost. On average, the direct monthly loss (excluding external costs[[6]](#footnote-6)) due to food waste stands at NIS 295 per household, and accordingly, the annual loss stands at NIS 3,500 per household. The costs of collecting and disposing the waste in a landfill are ultimately passed onto consumers in the form of increased municipal property taxes and fees, leading to an additional annual cost of NIS 200 per household.

***Cost of living – Higher food prices:*** In addition to a household’s direct surplus expenditure on food that was bought but not consumed, cost of living is affected by food waste throughout all stages of the value chain prior to household consumption. In economic terms, the cost of food reflects the total cost of production and sales at all stages of the value chain: growing, production, packaging, transport, and sales. Therefore, the price of food in supermarkets incorporates the value of food waste in the retail sector. Similarly, wholesale food prices reflect food waste in the agricultural and industrial sectors. Ultimately, the cost of waste at all stages of the value chain is passed on to the consumer, leading to an additional annual cost of NIS 3,000 due to an 11% increase in food prices.

***Cost of living – Environmental impact of greenhouse gas and air pollutant emissions:*** The environmental impact caused by food waste has an indirect effect on the cost of living. Air pollutant emissions negatively affect human health and the environment, a cost the economy bears as a whole, mainly in the form of health expenditures. External costs resulting from these negative environmental influences, which reflect the monetary value of societal wellbeing lost due to pollutant emission,[[7]](#footnote-7) were calculated and estimated at around NIS 1.3 billion for the Israeli economy in 2021, about NIS 210 per household [see chapter 9].

Beyond the direct impact on the cost of living, other external costs are incurred due to food waste, its transport, and landfill disposal, stemming from the indirect impact of waste transportation, fuel combustion, and the environmental damage caused by greenhouse gas emissions measured in this report. Likewise, there are other effects, such as road congestion and soil contamination, which are not included in the estimated environmental cost presented in this report [see chapter 9].

When organic waste is buried in landfills, it decomposes and emits methane, which is a greenhouse gas with a global warming potential (GWP) 84 times greater in the short term (20 years) and 28 times greater in the long term (100 years) than that of carbon dioxide.[[8]](#footnote-8)

According to findings of the 2021 National Food Waste Report, 955 thousand tons of household food waste were transported to landfills, requiring sanitation trucks to make about another 300 thousand trips throughout the year and thereby increasing air pollution, road congestion, noise, and the risk of accidents. Therefore, beyond the NIS 8.8 billion in household food waste and the NIS 0.6 billion it cost to dispose of it, the economy incurred additional external costs due to the effects of traffic congestion and the resulting impact on the environment.

1. BDO’s analyses of Stornext data and data from the supermarket chains for 2021. [↑](#footnote-ref-1)
2. Based on the food value chain model developed by BDO, using weighted data from the Central Bureau of Statistics for 2019, a national survey of the composition of household garbage conducted by the Ministry of Environmental Protection for 2012-13, the findings of a Geocartography survey conducted in January 2019, and a study on household garbage in Israel conducted by Dr. Ofira Ayalon and Efrat Elimelech, “What gets measured gets managed: A new method of measuring household food waste.” *Waste Management, 76* (2018): 68–81. [↑](#footnote-ref-2)
3. The environmental cost is not included in the market price of the wasted food, i.e. the natural resources wasted due to food waste in this sector. [↑](#footnote-ref-3)
4. Based on findings of the Geocartography survey conducted in March 2021 by Leket Israel and BDO. [↑](#footnote-ref-4)
5. Global Food Security Index, *The Economist*, 2018 [↑](#footnote-ref-5)
6. External costs not included: the cost of clearing and burying the food waste, the cost of greenhouse gas and air pollutant emissions, and the increase in wholesale prices due to food waste in agriculture and industry. [↑](#footnote-ref-6)
7. *The Green Book: Estimating and Measuring Environmental Costs*, The Ministry of Environmental Protection, 2020. [↑](#footnote-ref-7)
8. IPCC, 2014: *Climate Change 2014: Synthesis Report* [↑](#footnote-ref-8)