

**REPORT
2018**

**FOOD WASTE
AND RESCUE
IN ISRAEL**

The Economic, Social and Environmental Impact

Introduction

Leket Israel and BDO have, for the fourth consecutive year, produced the National Food Waste and Rescue Report for 2018. The estimates in the report reveal that 5.5 billion pounds of food, worth \$5.5 billion and constituting approximately 35% of domestic food production, goes to waste in Israel annually. Of this amount, approximately 2.6 billion pounds, worth \$2 billion, is rescuable, meaning that it is suitable for human consumption.

Food waste causes substantial economic, environmental, and social costs. Ultimately, the cost of food waste at all stages of the value chain – growth, production, packaging, transportation, marketing, and consumption of food – is passed on to the consumer; this affects the cost of living for Israel's citizens. In addition, food waste has a detrimental impact on the productivity of the national economy due to the production and labor inputs that are squandered. Therefore, food rescue and reduction of food waste offer an important economic contribution, while also decreasing economic inequality, lowering the cost of living and improving productivity and competition in the Israeli food industry.

This report is based on an economic model for the food industry developed by BDO. It includes comprehensive, detailed research on the extent of food waste of all types in Israel. Furthermore, the report reveals the potential for food rescue at each stage of the value chain in the food production process.

The findings presented herein indicate that food rescue is extremely beneficial from economic, social, and environmental perspectives. Every dollar (\$1.0) invested in food rescue produces food with a direct value of \$3.6. If the environmental impact of food rescue is taken into account, the economic value of each dollar invested is increased, creating \$7.2 in value for the national economy.

This year for the first time, the report includes a detailed model for estimating food waste in the household sector. The value of food waste from this sector exceeds \$2.2 billion. Each household discards food worth \$890/year on average, which is about 13% of a household's total expenditures on food.

The problem of food waste is not limited to Israel; the extent of food waste in Israel is similar to that in other developed nations around the world. Many other countries have enacted legislation and developed national, multi-year goals and programs to encourage food rescue and to reduce waste. In October 2018, the Israeli Parliament passed the Food Donation Act – an important first step towards developing a comprehensive national food-rescue plan.

It is our hope that this report will encourage Israel's decision makers to move from the stage of declared intentions to that of concrete action, developing a national policy that will lead to genuine change for Israel when it comes to food rescue.

We are grateful to the Ministry of Agriculture, the Ministry of Environmental Protection, the Ministry of Economy and Industry, the Central Bureau of Statistics, the staff of Volcani Institute for the fruitful cooperation that made it possible for us to improve our database and methodology.

Our thanks to the Ministry of Health, the Restaurant Association, Dan Hotels, Fattal Hotels, ISS Catering, The Association of Halls, banquets and catering halls in Israel and R2M restaurants for their cooperation in the area of institutional catering.

We are also grateful to Shufersal, Tnuva, Machsenai Hashuk, the Food Manufacturers Association, the Federation of Israeli Chambers of Commerce: Food, Beverages & Catering, for their cooperation in the area of loss in the retail and distribution segments.

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Produced and presented by Leket Israel

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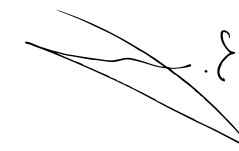
The Report is available for download in a pdf format at:

foodwastereport.leket.org / www.leket.org

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Leket Israel's field in Binyamina. Photo: Leket Israel Archive

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Uniqueness of Food Consumption and Production in Israel

17% of a household's total expenses in Israel accounts for food consumption

Uniqueness of Food Consumption and Production in Israel

Expenditures for food consumption represent approximately 17% of the average household's consumption basket in Israel. In the lowest two percentiles of the population, expenditures for food amount to 20% of their total consumption. However, food is a far more substantial component of a household's total consumption basket; food consumption is a basic human need and maintaining a balanced diet is essential to ensuring the health of the population as a whole, and for the physical and cognitive development of infants and children in particular. Therefore, a shortage of food, or insufficient consumption of basic nutritional components, can cause potential health issues with a cost exceeding the food's market value, representing the cost of its production at all stages of the value chain.

In addition to the high cost of living in Israel which is among the highest in the developed world, the poverty rate is also quite high. As a result, food insecurity is a particularly severe problem in Israel. A 2018 report issued by the National Insurance Institute found that 17.8% of Israeli households suffer from food insecurity, equivalent to approximately 450,000 households in Israel. From an economic perspective, this indicates that a food insecure household spends approximately 30% less on food than those who enjoy normative levels of consumption.

Food is a unique commodity, not only in terms of its consumption characteristics, but also in terms

of its production properties. The nutritional components found in food are derived almost entirely from agricultural products: vegetables, fruits, legumes, dairy products, eggs, meat, fish, oils, etc. Concurrently, agricultural production has an inherently high level of uncertainty resulting from external factors including pests, weather, and disease.

The cultivation and production of food requires the utilization of natural resources that are relatively scarce or which have substantial economic costs to land and water resources. In an arid country like Israel, water is a valuable and limited resource. Furthermore, Israel is characterized by relatively high population density. As a consequence, land is also expensive and scarce, especially in high demand areas. This has also resulted in a housing insecurity problem in addition to the problem of food insecurity. Therefore, the need to use land for surplus agricultural production that is later lost or wasted incurs additional social costs, beyond the direct economic costs.

The cultivation and production of food also has a significant environmental impact. The use of land, fertilizers and pesticides may pollute water sources, wildlife, plants, and the environment. Currently, 20% of greenhouse gas (GHG) emissions in the world are generated during the various stages of food cultivation, production, and distribution. Moreover,

the collection of food waste and its disposal in landfills carries added environmental costs.

This report examines the issue of food waste and the economic viability of its rescue, based on quantifiable estimates and assessments, and includes updated

data and methodological improvements, based on the experience accumulated while preparing the previous three reports. Furthermore, this year's report includes an expanded section on food waste occurring in the household consumption sector.



A pot of cholent, traditional Jewish cooking.



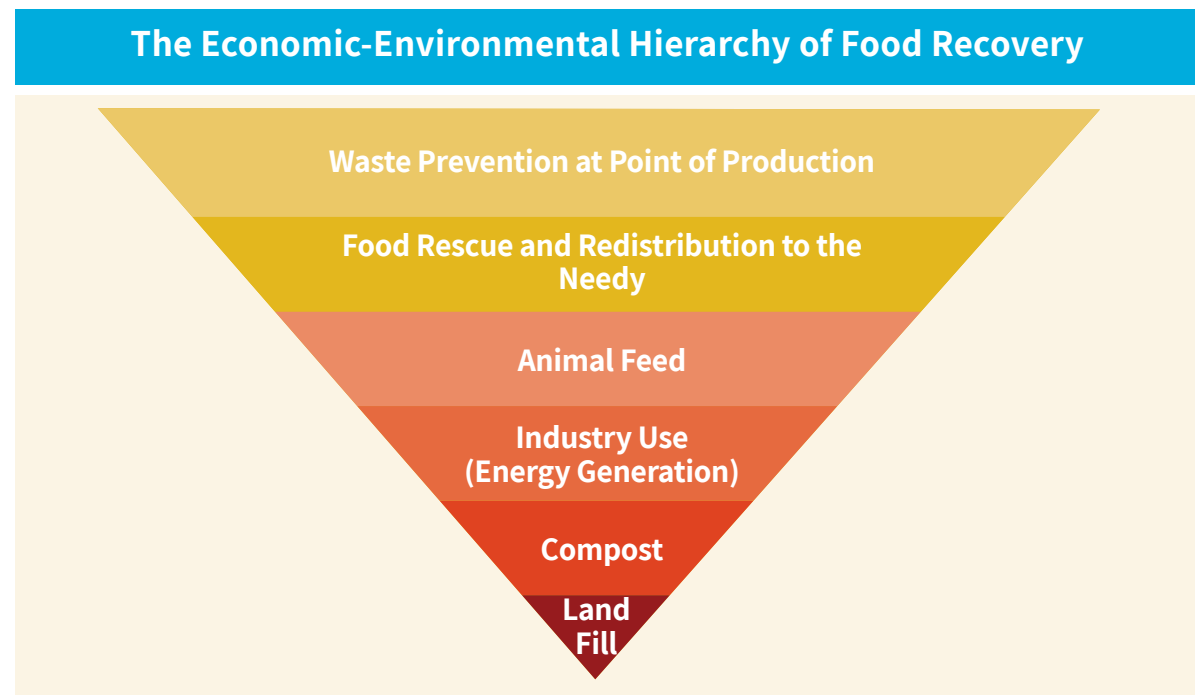
**Food Rescue:
Integrating Economic,
Environmental, and
Social Contributions**

1/3 of all the food produced in the world is wasted. 'Food rescue' is the economic endeavor of transforming surplus food, currently of zero or negative value, into food with economic value and distributing it to the underprivileged population for consumption.

Food Rescue: Integrating Economic, Environmental, and Social Contributions

According to estimates by the Food and Agriculture Organization of the United Nations (FAO), approximately one-third of all food produced worldwide, in quantitative terms, is wasted. This is equivalent to approximately one-quarter of the total caloric value. Food waste is an international phenomenon; it is not unique to the Israeli economy and exists on a similar scale in all Western economies.

The Food Recovery Hierarchy set out in the EU's directive on food waste sets priorities for the treatment of food that was not consumed. This hierarchy gives clear priority to the prevention of food waste and the repurposing of unconsumed food for use by underprivileged populations. Many policy measures exist to address the needs of underprivileged populations, and to help alleviate the problem of food insecurity.



Source: EPA

The most commonly used methods in Israel include donations, subsidies, allocations and allowances. The uniqueness of food rescue stems from its ability to help those in need at a low budgetary and economic cost. Instead of financing the full cost of food purchases, it is only necessary to finance the cost of its rescue.

In socioeconomic discourse, there is a prevailing disagreement, both in Israel and abroad, between proponents of prioritizing growth ("increasing the pie") and proponents of prioritizing reduction of inequality.

Food rescue is unique because it is a policy tool that inherently integrates both approaches. Rescuing food and transferring it to underprivileged populations for their consumption increases the productivity of the economy and simultaneously reduces inequality.

Food rescue is an economic action that transforms such surplus, with zero or negative value, into food with a positive economic value that is then distributed to the underprivileged population.

The importance of rescuing food stems from three central advantages:

1	2	3
Economic benefit	Social benefit	Environmental benefit
Rescuing food transforms zero or negative value waste to an economically valuable commodity, thus increasing the gross national product and productivity.	Food rescue reduces social gaps and increases food security for the underprivileged populations.	Reduces pollution, greenhouse gas emissions, and the use of finite land and water resources.

The combination of these three characteristics of food rescue creates a unique opportunity that requires the formation of an appropriate policy to reflect such benefits.

As mentioned, food waste is not a phenomenon unique to the Israeli economy, and is evident in similar volumes in comparable developed economies. However, unlike many other countries that have developed legislation, national policies and multi-year targets to encourage food rescue and decrease food waste, Israel still lacks a national policy regarding these issues. This is despite the fact that three years have passed since the State Comptroller's report warned of

the absence of a clear government policy on the subject.

Despite this, some initial steps have been taken in Israel in recent years, in terms of both regulation and incentives. In October 2018, the Israeli parliament passed the Food Donation Act that absolves donors along the food rescue chain from civil or criminal liability as long as they act in accordance with law. Moreover, in recent years, the State has budgeted two joint initiatives in which the Ministries of Welfare and Agriculture partnered with Leket Israel to address food waste and nutritional insecurity. [More details on these government initiatives may be found in Chapter 11.]



**Food Waste:
How Much Food is
Wasted in Israel?**

5.5 billion pounds of food is wasted in Israel annually

Food Waste: How Much Food is Wasted in Israel?

Food waste estimates in Israel are based on a unique model of the value chain for domestic food production¹. Estimated at approximately 5.5 billion pounds, food waste in Israel constitutes 35% of overall domestic food production. This year, the agricultural sector in Israel recorded a 2.4% decrease in production compared to the previous year, when there was a 2.3% increase in production.

Findings of the 2018 National Food Waste and Rescue Report reveal an increase in food waste,

1. The value chain model does not include beverages, energy boosters, sugar, honey and candy.

compared to the findings in the previous report. This was the combined result of an increase in imports, partially offset by the decrease in Israeli agricultural production, and updated data concerning food waste in the household consumption sector, which underwent evaluation for the first time this year.

In monetary terms, some 18% of the value of food waste, worth approximately \$1 billion, occurs during the various stages of production, representing approximately 13% of the value of

Food Waste in Israel, Monthly Value (\$) of Food Waste per Household in Israel							
Waste/household	Agriculture	Processing & Packaging	Industry	Retail & Distribution	Institution Consumption	Household Consumption	Total
Fruits & Vegetables	17	6	0.5	19	12	34	88
Grains & Legumes	0.7	0.2	0.5	6	12	23	42
Meat, Fish & Eggs	3	0.5	4	13	9	11	40
Milk & Dairy	1	0.2	0.4	1	2	6	11
Total	22	7	5	39	35	74	182

Numbers are rounded for ease of presentation.

agricultural production in Israel. Nearly 82% of the waste, worth approximately \$4.5 billion, occurs during distribution and consumption.

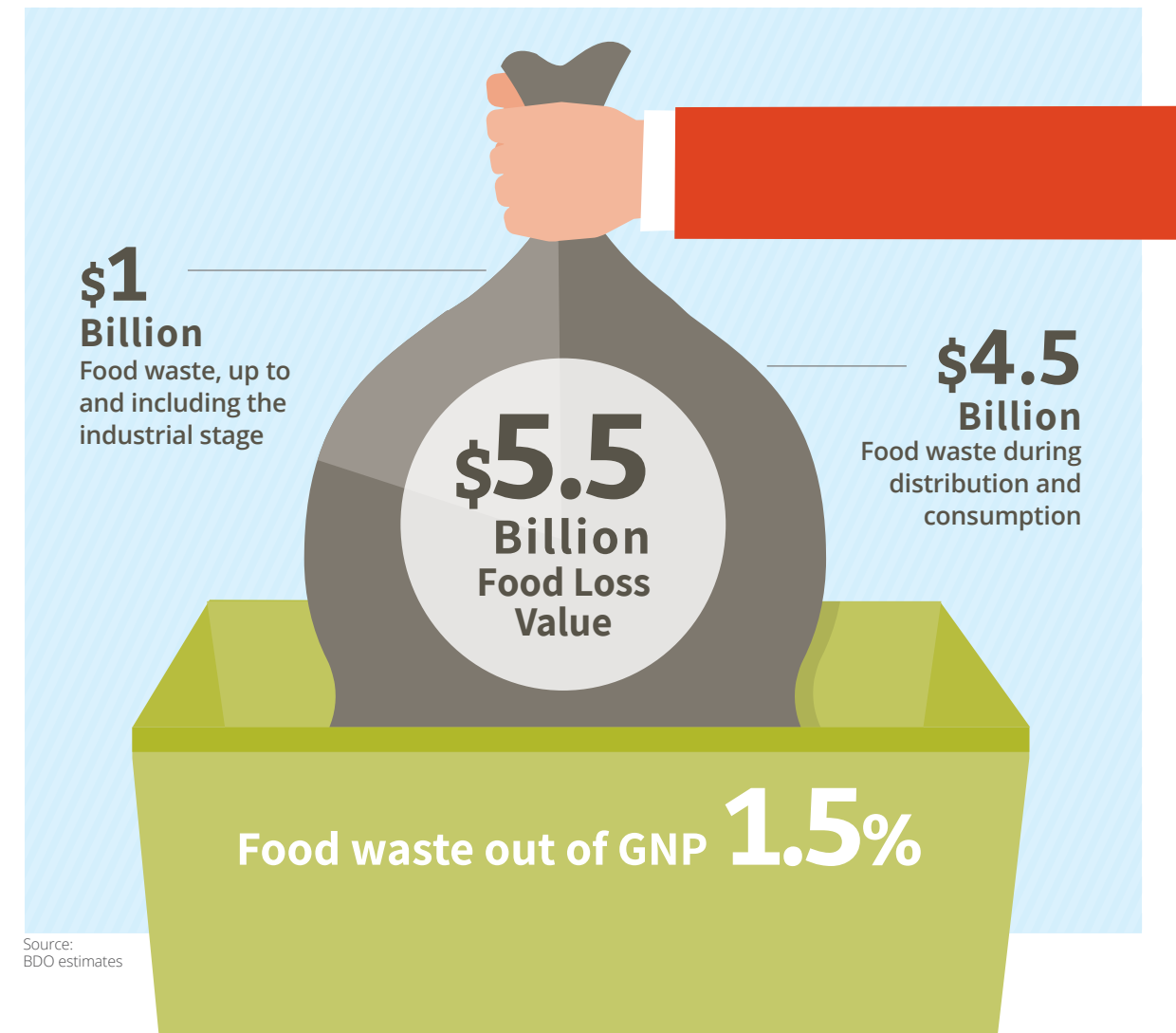
A comprehensive value chain model for various food production and consumption stages was designed to assess food waste and the potential for food rescue in Israel. This model is based on a bottom-up approach, and includes analysis of data relevant to agricultural production, import, export, industry, distribution, and a sample of consumption patterns of 50 types of food². Processed produce included in the data is

translated into terms of fresh produce.

For each type of food, the volume of input and output was measured in terms of gross agricultural product and loss rate for every stage of the value chain in the food production, distribution and consumption process. The loss assessment is based, in part, on agricultural waste surveys which were conducted and updated by the Volcani Center³. The estimated total loss of food for the economy as a whole, and for each type of food, is based on the total loss for each product and stage.

2. We are aware such estimates may include deviations or inaccuracies that are inevitable due to the lack of official data. Additionally, the volume of annual food waste also depends on random variables, such as extreme weather conditions, natural events and pests, deviations in demand, etc. The data presented here is based on an annual analysis and average weather conditions. This data is indicative and intended to serve as the basis for public debate, and for further research and study.



































3. Dr. Ron Porat, 2015, 2016



Source: BDO estimates

Percentage of Food Waste at All Stages of the Value Chain (Million pounds)

Loss percentage figures were rounded for presentation purposes

	 Fruits & Vegetables	 Grains & Legumes	 Meat, Fish & Eggs	 Milk & Dairy	Total		
Agriculture	 9,153 Million pounds 12% (1,142 M lb) loss	 922 Million pounds 6% (51 M lb) loss	 1,627 Million pounds 4% (69 M lb) loss	 3,683 Million pounds 4% (129 M lb) loss	 15,386 Million pounds 9% (1,391 M lb) loss		
Processing & Packaging	 8,012 Million pounds 5% (408 M lb) loss	 871 Million pounds 3% (30 M lb) loss	 1,558 Million pounds 1% (10 M lb) loss	 3,554 Million pounds 1% (18 M lb) loss	 13,995 Million pounds 3% (466 M lb) loss		
Industry	 1,421 Million pounds 3% (45 M lb) loss	 836 Million pounds 5% (42 M lb) loss	 1,307 Million pounds 5% (65 M lb) loss	 3,456 Million pounds 1% (41 M lb) loss	 7,020 Million pounds 3% (194 M lb) loss		
Net Import minus other uses	3 Million Pounds	2,342 Million Pounds	244 Million Pounds	205 Million Pounds	2,794 Million Pounds		
Distribution	 7,561 Million pounds 9% (689 M lb) loss	 3,142 Million pounds 3% (94 M lb) loss	 1,726 Million pounds 5% (82 M lb) loss	 3,699 Million pounds 2% (62 M lb) loss	 16,129 Million pounds 6% (927 M lb) loss		
Consumption	 6,872 Million pounds 20% (1,408 M lb) loss	 3,048 Million pounds 20% (623 M lb) loss	 1,644 Million pounds 12% (198 M lb) loss	 3,638 Million pounds 6% (219 M lb) loss	 15,202 Million pounds 16% (2,448 M lb) loss		
						{ \$1 Billion } 20% Loss	
						{ \$4.5 Billion } 80% Loss	

One of the major challenges of analyzing food waste and the potential for food rescue in Israel is the lack of any data-gathering mechanisms, or monitoring of relevant data. This absence of data was discussed extensively in the 2015 State Comptroller's Report. The data regarding food waste presented in this report is based on estimates, weighing a wide range of information sources and statistics available, As well as cooperation with the Central Bureau of Statistics, the Ministry of Agriculture, the Ministry of Environmental Protection, and the Ministry of Social Affairs, conversations and interviews with experts in the field, study findings and results from previous reviews, international comparative studies and more.

There is great variance in the volume of food waste among the different foods types reviewed, as well as in each stage of the value chain in which the waste occurs. The value of agricultural produce per pound increases as it

progresses along the value chain of production and as additional inputs are invested - including those required by sorting, processing, transport and distribution. Assessment of the value of waste in the early stages of production (growing, packaging and manufacturing) is based on the wholesale prices paid to farmers. Waste during the later stages in the value chain is estimated based on retail food prices.

Food waste is ordinarily divided into two stages of the food value chain:

1 From agricultural production to final stage of industrial food processing (food waste in production).

2 From retailing and distribution to final loss at the consumer level (food waste in consumption).

Food Waste Estimate in Israel (Million pounds)						
	Agriculture	Processing & Packaging	Industry ⁴	Retail & Distribution	Consumption	Total
Fruits & Vegetables	1,142	408	45	689	1,408	3,692
Grains & Legumes	51	30	42	94	623	839
Meat, Fish & Eggs	69	10	65	82	198	425
Milk & Dairy	129	18	41	62	219	470
Total	1,391	466	194	927	2,448	5,426

Source: BDO estimates

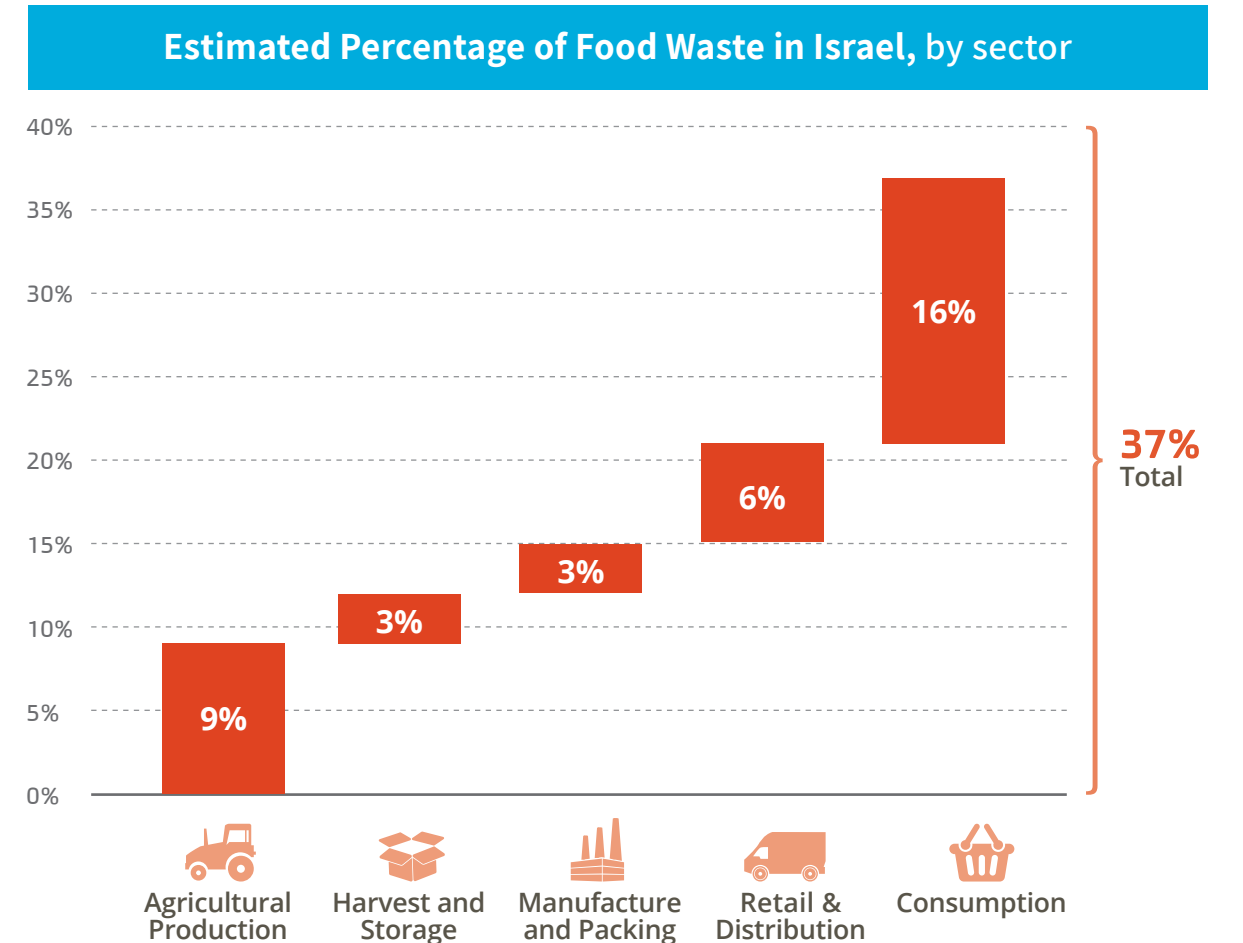
4. The estimated food waste from industry does not include food that is recycled, primarily as animal feed.

The large share of waste from fruits and vegetables in Israel stems both from their large share in domestic agricultural production, and from the high rate of waste (40%) during the value stages. The high rate of waste for fruits and vegetables is not exclusive to the Israeli economy. Compared to international data, Israel's rate of waste in this

category is similar to that in Europe. Compared to the US, the rate of loss is even lower, but is composed of a lower rate of loss during the agricultural production and consumption stages, and greater waste in the intermediary stages.

Total food waste in all value chain stages translates to a loss of approximately \$180 per month per household in Israel, equivalent to wasting approximately 155 pounds of food per month per household. Quantitatively speaking, approximately 55% of this waste is incurred during production, manufacturing and distribution, before the food reaches household or institutional consumers. In monetary terms, roughly 60% is wasted during household or institutional consumption.

The economic value of food waste in Israel is estimated at approximately \$5.5 billion, constituting 1.5% of domestic production.



Source: BDO estimates



**Food Rescue =
Alternative to
Food Production**

2.6 billion pounds of food can be rescued



From an economic perspective food rescue should be considered a viable alternative to additional food production

Food Rescue = Alternative to Food Production

During the growth, production, distribution and marketing of food in Israel, approximately 35% of domestically produced food is lost, becoming waste or surplus. Food rescue is an economic act of transforming this surplus food, that would otherwise have zero or negative value, into food that is distributed to the underprivileged population for consumption.

Food rescue is a winning formula for producing food without significant reliance on natural resources, land or water pollution, and use of fertilizers or pesticides.

Economically speaking, food rescue should be viewed as a viable alternative to excess food production. However, in contrast to the usual food production processes, the raw materials required for food rescue are surpluses that would otherwise be wasted.

Consequently, food rescue produces food without utilizing the resources necessary during production, while also preventing the majority of the detrimental environmental impact attributed to the production process. Food rescue is a winning formula for producing food without significant reliance on natural resources, land or water pollution, and use of fertilizers or pesticides.

Food Rescue Benefits		
	Food Production	Food Rescue
Product	Nutritional Foods	Nutritional Foods*
Nutritional Value	100%	100%
Land Use	Yes	Negligible
Water Use	Yes	Negligible
Greenhouse Gas Emissions During Production	Yes	None
Use of Fertilizers and Pesticides	Yes	None
Logistics, Distribution and Transportation Costs	Yes	Yes

* May be aesthetically flawed

Nearly 50% of wasted food is rescuable, equivalent to 2.6 billion pounds.

Currently, the majority of food rescue in Israel and abroad is carried out by nonprofit organizations (NPOs), supported by donations. However, even if funding for food rescue is derived from donations, such activity is not primarily philanthropic or charitable, but an alternative economic method of food production, one that is clearly beneficial to the national economy, above and beyond its contribution to reducing social inequality.

According to a study conducted in Australia, the multiplier for the value of rescued food relative to rescue costs is 5.7. In other words, every dollar invested in food rescue enables the recovery of surplus food worth \$5.7. Moreover, food rescue generates additional environmental, social and health benefits.

Based on Leket Israel's experience, the cost of food rescue is approximately \$0.18 for every pound of food. The direct value of the food is

\$0.64 per pound, yielding a multiplier effect of 3.6. Therefore, each \$1.0 invested by NPOs in food rescue provides \$3.6 worth of food for the underprivileged population. Food rescue in Israel is still in its infancy, so there is enormous potential for expansion, utilizing economies of scale to reduce the cost of food rescue, and/or raise the value of rescued products, which would in time enable the multiplier to increase. However, for reasons of conservatism, we have based our assessments on the current cost structure.

In terms of benefit to the national economy, it is also necessary to consider the positive environmental and social contributions of food rescue. This report does not estimate these influences in the context of the Israeli economy. However, assuming that these environmental and social benefits are similar to the average costs around the world, the multiplier would increase to 7.2. A calculation that includes environmental benefits would show that every \$1.0 invested in food rescue generates \$7.2 to the national economy.

Food Rescue Feasibility Assessment Food Cost / Benefit \$ per pound						
	Rescued Food Value*	Environmental Social Contribution (FAO)	Total Value to the National Economy	Rescue Cost	Gain from Food Rescue	Multiplier value of rescued food/ rescue cost
Benefit to National Economy - Excluding External Factors	\$0.64	Not included	\$0.64	\$0.18	\$0.47	3.6
Benefit to National Economy - Including External Factors	\$0.64	\$0.63	\$1.28	\$0.18	\$1.10	7.2

Source: BDO estimates

* Market price of alternative product with similar nutritional value.



**Food Waste in
the Household
Consumption Sector**

\$ 2.2 billion worth of food was wasted by Israeli households in 2018

\$ 890 Yearly average value of food discarded in Israeli household

Food Waste in the Household Consumption Sector

In Israel, expenditures on household food consumption is a central component of each household's monthly expenses, and averages approximately \$550 per month per household (not including alcohol, soft drinks, and meals eaten outside of the home), which is about 17% of a household's total expenditures.

Findings of the 2018 National Food Waste and Rescue Report reveal that Israeli households wasted approximately 1,940 million pounds of food⁵, worth approximately \$2.2 billion. This waste

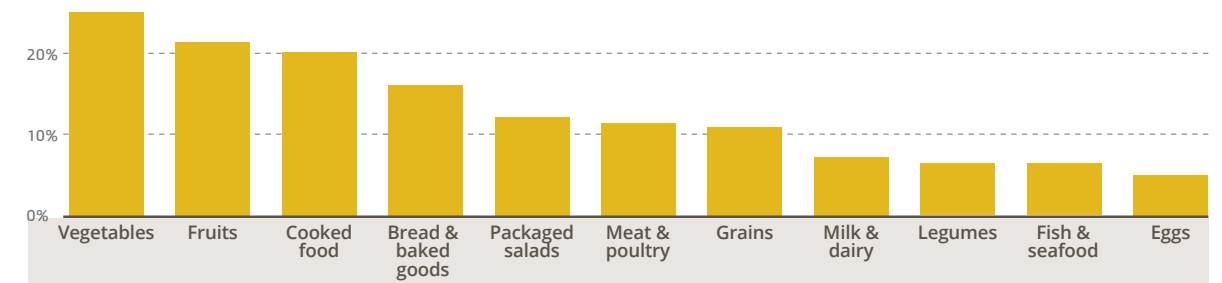
accounts for approximately 13% of the average household expenditure on food. This means that Israeli households discard food valued at \$890 each year, **equivalent to one-and-a-half months worth of a household's food consumption.**

On a monthly basis, a household's financial loss from food waste is \$75. Of the loss, fruits and vegetables account for \$33, grains and legumes \$25, meat, eggs and fish \$12 and milk and dairy \$5.

5. Based on food value chain model developed by BDO, using weighted data from the Central Bureau of Statistics for 2018, a national survey of the composition of household garbage conducted by the Ministry of Environmental Protection for 2012-13, and research on household garbage in Israel conducted by Prof. Ofira Ayalon and Efrat Elimelech that was published in 2018, and results of a survey conducted by Geocartography Research Institute in January 2019.

	Monthly expenditure on food	Monthly food waste	% Waste
Fruits & Vegetables	\$140	\$33	23%
Grains & Legumes	\$170	\$25	14%
Meat, Eggs & Fish	\$150	\$12	8%
Milk & Dairy Products	\$90	\$5	7%
Total	\$550	\$75	13%

Rate of Household Food Waste for Selected Products



Source: BDO estimates

Primary causes of household food waste: surplus preparation and expired or damaged food

Waste from household food consumption is caused by a combination of consumer habits and a culture of abundance. It is also influenced by how food is stored and kept fresh. The value of the food wasted by households is approximately \$2.2 billion per year.

According to findings of the Household Food Waste survey⁶, **three main factors causing food waste in household consumption are:**

6. Household Food Waste survey of 500 households, representative of the Israeli population, conducted by Leket Israel and BDO, with the assistance of Geocartography Research Institute, in January 2019.

1. Surplus preparation of food
Preparing more than is needed, usually excess food that is cooked or prepared unnecessarily and not consumed.

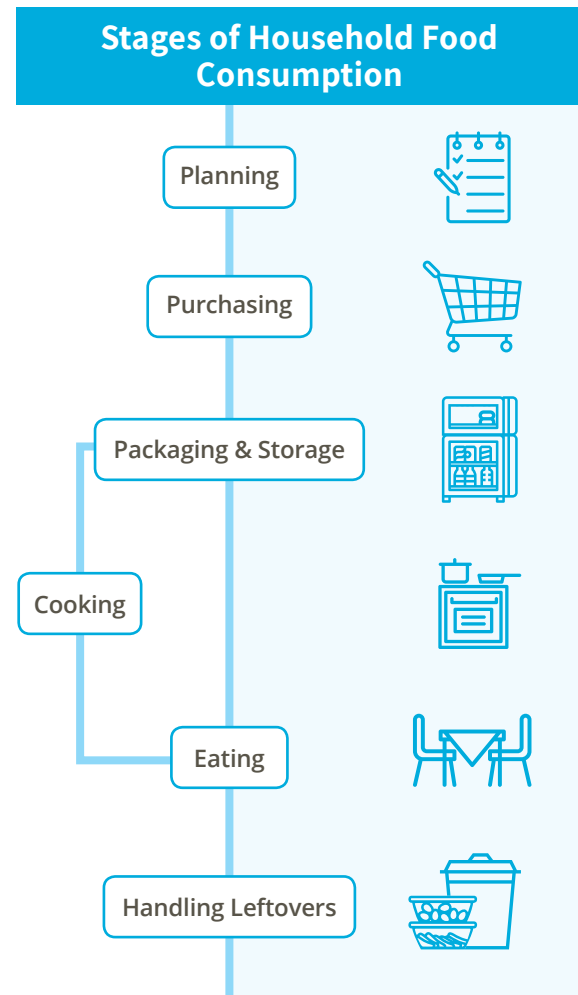
2. Expired food
Food that reaches its expiration date before being fully consumed.

3. Damaged or spilled food
Food that has spoiled due to poor storage, poor cooking or human error.

Other causes of food waste in household consumption are poor preparation or cooking, and excessive purchasing.

Ranking of Causes of Food Loss in the Household Consumption Sector

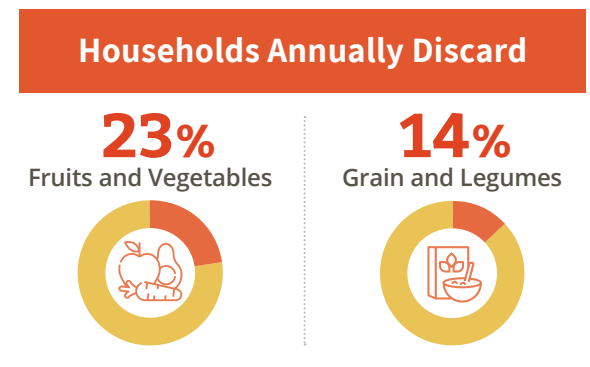




suitable quantities, changing eating habits, and reusing surpluses.

Since there is no way of knowing about the level of food safety and hygiene procedures employed in private homes, most of the surplus food in households, except for that food maintained in its original packaging, cannot be rescued. Moreover, from an economic point of view, it is generally not feasible to rescue surplus food from the household sector in a concentrated manner and transfer it to the needy, due to the inherent characteristics of the food including geographical dispersion and relatively small quantities of surplus that exist in each household. Thus, for purposes of the estimates identified in this report, all household food waste is classified as food that cannot be rescued.

Therefore, reducing food loss in the household consumption sector requires decreasing the amount of waste at the source, by changing habits and awareness as well as improving food storage conditions throughout all stages of household food consumption.



Food waste from household consumption is not unique to Israel, and the rates of loss in Israel are comparable to other developed countries. The highest percentage of waste in Israel, as in other Western countries, is from fruits and vegetables, with 23% of fruits and vegetables purchased in Israel being discarded, compared to 28% in the US and 19% in Europe. The relatively high waste of fruits and vegetables is primarily due to their

It should be noted that one-third of the survey respondents reported that a clearer presentation of expiration dates on food packages would be the principal factor causing them to reduce food waste. Similarly, 80% of the respondents said that they would prefer to buy food from a store that encourages waste reduction or protection of the environment.

Moreover, the survey findings suggest that there is potential for reducing food waste through increased awareness and planning at each stage of household food consumption; this would start with planning before shopping, and continue with informed purchasing appropriate to one's household needs, proper storage conditions and packaging at home, preparing and cooking

short shelf-life and a households' failure to adhere to optimal storage conditions.

The rate of loss for meat, fish and dairy products is lower and stands at approximately 8%, in part because these products are more expensive per unit of weight, which creates a higher economic incentive for reducing the loss. The rate of loss for these products are similar to those in Europe, and lower than those in the US.

For grains and legumes, the rate of loss is approximately 14%. The loss for these products stems from the combined result of the short

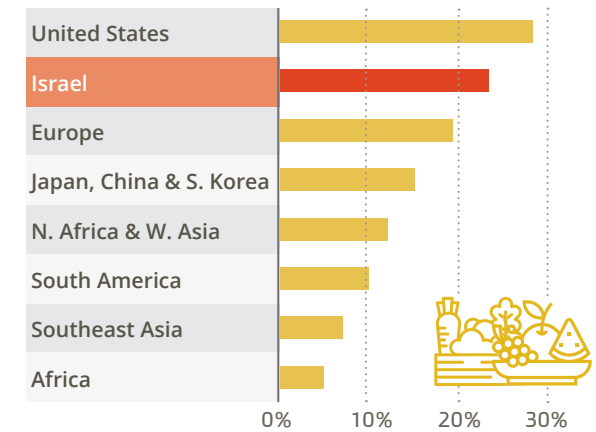
shelf-life of products like bread and pastries, and the relatively long shelf-life of raw grains and legumes.

Based on an international comparison, the amount of food loss in Israel is no different than what exists in European countries. However, the survey found that the subjective feeling of respondents in Israel is that the amount of waste is higher than Europeans' average subjective sense of food waste ⁷.

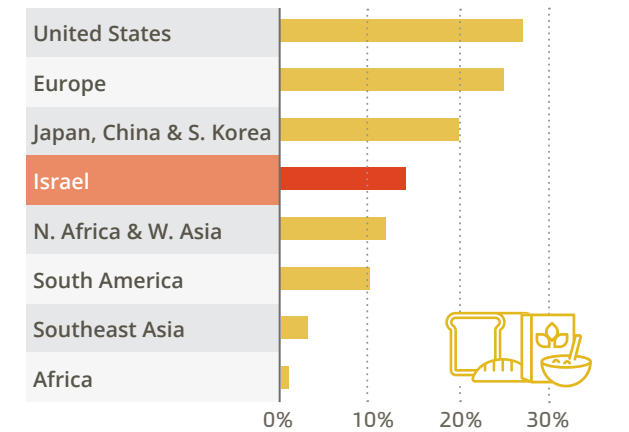
7. According to a survey conducted in EU-27 countries: Household food waste behavior in EU-27 countries, 2015.

International Comparison: Rate of Household Food Waste

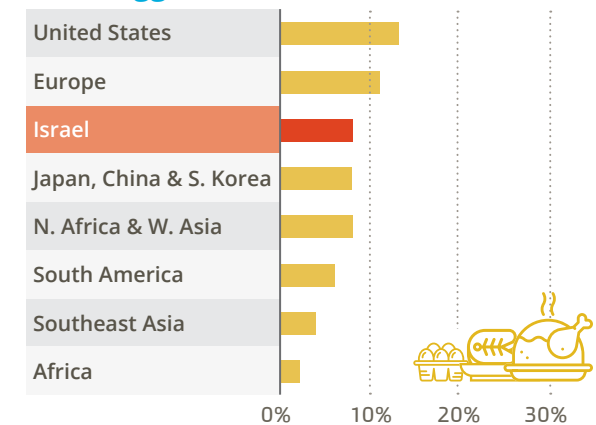
Fruits and Vegetables



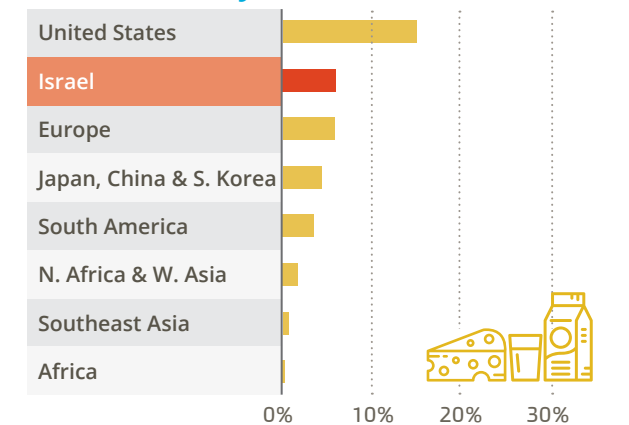
Grains and Legumes



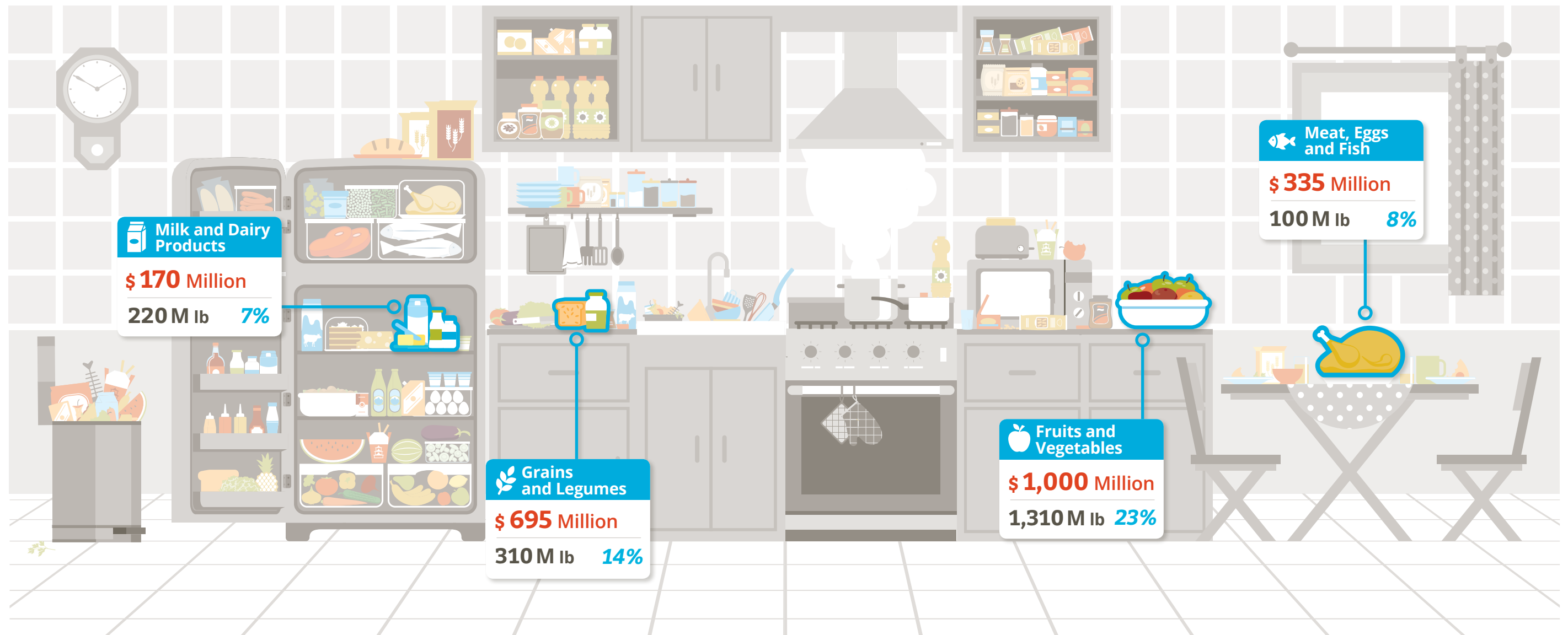
Meat, Eggs and Fish



Milk and Dairy Products



Household Food Waste in Israel Per Year



Primary Causes of Waste

- Surplus preparation of food
- Expired food
- Damaged or spilled food

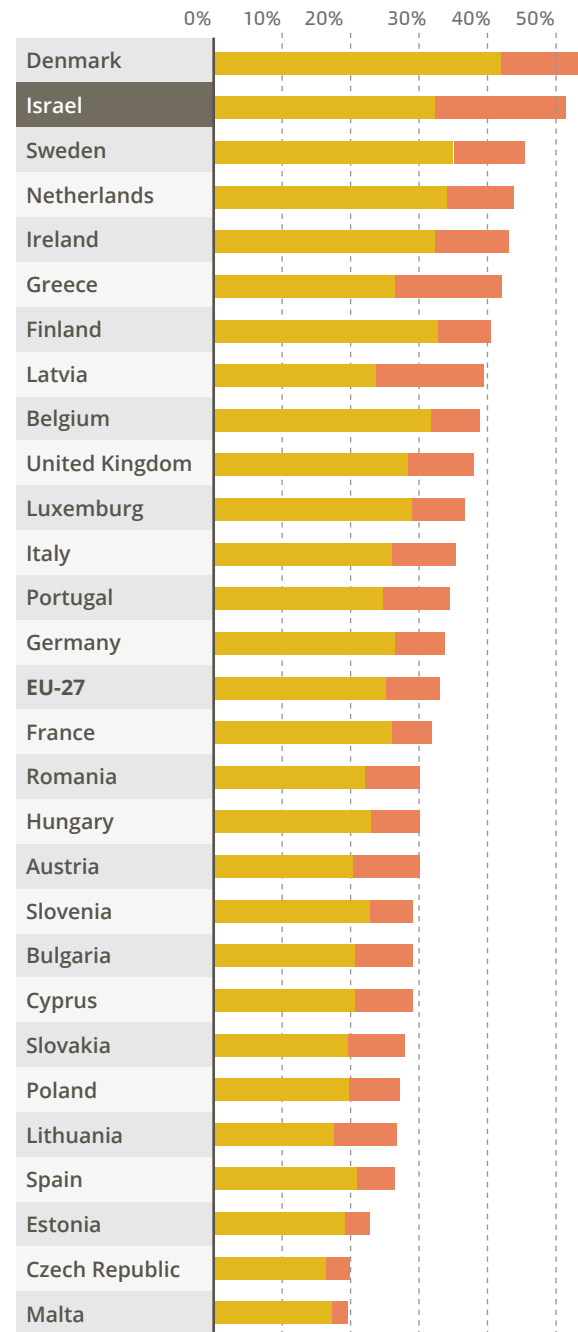
Value of Loss

\$ 2.2 Billion

Rate of Food Waste as Estimated by Household Respondents

The rate of households who estimate high loss rates

■ Rate of Waste: 15% and more ■ Rate of Waste: 6%-15%



\$1,750

Overall effect of food waste on the cost of living per household annually

In Israel, where expenditure on food is relatively high by international standards⁸, food waste contributes to the high cost of living. Food waste impacts the cost of living by leading to excessive expenditures for food while also having an effect on food prices. The overall impact on the cost of living is an additional \$1,750 per year per household.

Cost of Living - Surplus expenditure: Food purchased and discarded as waste directly influences the cost to a household. On average, the annual loss from discarded food was determined to be \$890 per household. The costs of waste collection and landfill disposal ultimately come from consumers' pockets as well, in the form of municipal property taxes and fees, adding an additional \$55 expenditure per household to dispose of food waste.

Cost of Living - Higher food prices: In addition to a households' direct surplus expenditure for food purchased but not consumed, food wasted in all stages of the value chain prior to household consumption influences the cost of living. In economic terms, the cost of food reflects total production and sales costs at all stages of the value chain: growing, production, packaging, transport and marketing. Therefore, the price of food in supermarkets incorporates the value of food waste in the retail sector. Similarly, the price of wholesale food reflects its loss in the agricultural and industrial sectors. Ultimately, the cost of waste at all stages of the value chain is passed on to the consumer, causing an additional annual cost of \$805, in the form of an 11% increase in food prices.

Beyond the direct impact on cost of living and cost of disposal to landfills, other external costs are incurred by the public through the transportation of waste, fuel combustion, road congestion, environmental damage caused by emissions of greenhouse gases, and soil contamination. When organic waste is buried in landfills, it decomposes and emits methane gas, a greenhouse gas whose

BDO analysis of data from the 2019 Geocartography survey, and research published in Journal of Food Policy Economics, 2015

8. Economist Global Food Security Index, 2018

Food Waste: Impact on the Cost of Living

	Annual cost per household	Impact on the cost of food
Cost of food discarded at home	\$ 890	-
Cost of collection and landfill disposal for discarded food	\$ 55	-
Increase in the retail price due to food loss in the market sector	\$ 470	6%
Increase in the wholesale price due to food loss in the production sector	\$ 335	5%
Total	\$ 1,750	11%

impact on global warming is twenty-five times greater than that of carbon dioxide.

According to findings of the 2018 National Food Waste and Rescue Report, 1,940 million pounds of household food waste in Israel was disposed of in landfills, causing 280,000 additional trips per year by sanitation trucks, thereby increasing air pollution, road congestion, noise and the risk of accidents. Therefore, beyond the \$2.2 billion value of household food waste itself and \$140 million for its disposal, additional external costs are also incurred due to the effects of traffic congestion and resulting impacts to the environment.

International Experience - Measures to Reduce Household Food Waste

Several countries have begun efforts to reduce household food waste. These efforts are being made on several levels including: increasing consumer awareness of food wastage, education to prevent loss, the use of technology to reduce waste, taxation and more.

In 2013, the British Food Rescue Organization WRAP: Waste and Resources Action Programme

9. https://www.moag.gov.il/subject/the_food_we_eat/Storage_Guidelines_For_Fruits_Vegetables/Pages/Storage_Guidelines_consumer.aspx

began the "Love Food Hate Waste" project, a campaign to raise awareness about the importance of reducing food loss and helping people take action on the issue. The project included digital publications and community events, such as cooking classes. As part of the project, a dedicated website was created, containing information to help facilitate the reduction of food waste. By way of example, subjects included the calibration of refrigerators to optimal temperatures, and the importance of preparing a shopping list, etc.

WRAP examined the effects of its project in west London over a six-month period from October 2012 to March 2013. At the end of the campaign, the quantity of food waste dropped by 14%, from 5.7 pounds per household in the week before the campaign, to 4.8 pounds per household in the week after the campaign. A cost-benefit analysis of the project revealed that every \$1 invested in the campaign resulted in an \$8 savings from the reduction of food waste.

Also in Israel, the Postharvest Science of Fresh Produce Department at the Volcani Institute has published guidelines on the preservation of fruits and vegetables for households⁹.

Technological means provide another path towards reducing food waste. In the Netherlands, research was conducted on optimal temperatures for extending the shelf life of various food products. By changing the storage temperatures, researchers were able to significantly extend the shelf life of the products.

An additional way to reduce household waste is through taxation. In many countries, what's known as the "pay as you throw" method has been employed. Countries currently implementing "pay as you throw" include the US, Canada, Austria, Germany, Spain, Japan and others. Through this method, the fee each household pays to the municipality or waste collection agency depends on the amount of unsorted waste it discards. As a result, the "pay as you throw" method encourages both recycling and reduction in food waste, since food accounts for a significant portion of the volume of household waste.



**Food Waste and
Rescue in Institutional
Consumption**

165 million pounds of food could be rescued each year, worth \$340 million



Nearly 1/3 of waste from institutional consumption is rescuable

Food Waste and Rescue in Institutional Consumption

Approximately 20% of the food consumed in Israel is served in institutional catering operations: meals served in factories, workplaces, security forces (Israel Defense Forces [IDF] bases, police stations, prisons), hotels, catering halls, restaurants, schools, hospitals, etc.¹⁰ This sector, in which many meals are gathered together in one location, has the greatest potential for food rescue.

According to BDO estimates, on an average day in 2018 approximately 2 million people ate one meal outside of the home, equivalent to 670 million meals annually. Approximately 1.7 billion pounds of food is used to prepare these meals.

The value of food used in meals eaten by consumers outside of their homes is estimated to be \$3.8 billion annually, equivalent to approximately 17% of the total expenditure on food in Israel, and approximately 11% of the food consumed in quantitative terms.

The total food wasted in the institutional sector amounts to 507 million pounds annually, representing 30% of institutional food consumption, at a cost of approximately \$1.0 billion annually.

Approximately one-third of institutional meals wasted are rescuable, meaning that it would be possible to save approximately 167 million pounds of food annually, with a total value of

approximately \$340 million each year, equivalent to approximately 68 million meals.

Food waste in institutional kitchens is an inevitable part of the economic planning of meals for a large number of patrons in congregant settings, while guaranteeing that the supply and variety meet the requirements of many diverse patrons, and taking into account the inherent elements of uncertainty as well.

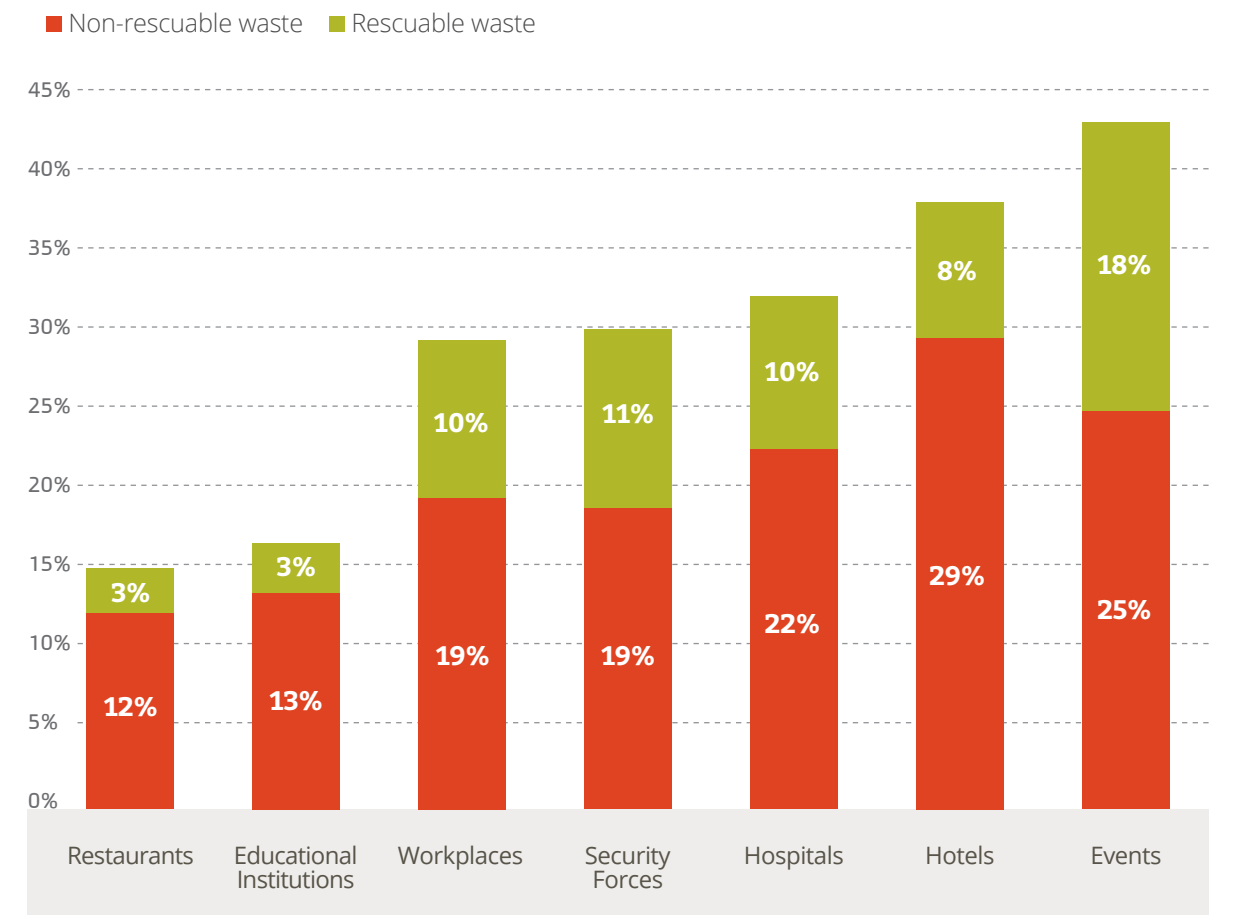
In situations where the consumer pays only for what is eaten, the amount of waste will be lower than it is in restaurants that charge an all-inclusive price.

In recent years, most institutional kitchens are being operated by external companies with a high level of expertise in the field. Those companies strive for maximal economic efficiency and reduction of waste. Despite this, catering cannot be planned on the basis of averages alone. Rather, it is necessary to provide appropriate supplies of food even for non-average days. Therefore, food preparation must allow for sufficient margins to accommodate the risk of variance, rather than relying solely on statistical averages.

The analysis in the report shows that, as a general rule, a kitchen characterized by a higher level of uncertainty regarding the number of patrons can be expected to produce a higher level of waste. For example, at open IDF bases and workplaces,

where there are accessible alternatives, the food waste will be higher than in schools and prisons, where there is less uncertainty about the number of meals to be served.

Rate of Food Waste by Category of Institutional Consumption



10. In the model, each of these categories is weighted according to the characteristics of the meals it serves.

In addition, the more varied the menu, the greater the amount of waste that can be expected due to the uncertainty regarding which choices patrons will prefer. Accordingly, a higher level of waste can be expected at events and in hotels, where a wide variety of choices is offered, rather than workplaces, IDF bases and police stations.

The style of service and payment can also influence the amount of waste. In restaurants, for example, where food is prepared only after it is

ordered, less waste is expected than at a buffet where food must be prepared in advance. In situations where the consumer pays only for what is eaten, the amount of waste will be lower than it is in restaurants that charge an all-inclusive price.

The table above presents a summary, in quantitative terms, of the estimated food waste in institutional sector.




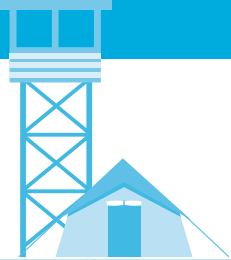



The total amount of food that can be rescued from the institutional sector is valued at approximately

\$340 million. Approximately half of this amount is from events, from which it is likely possible to rescue approximately 49 million pounds of food, with a monetary value of \$149 million, annually. Hotels, Security Forces and workplaces are other important focal points for food rescue, and it is probable that food worth \$39-\$52 million can be rescued annually from each of these sources. The value of rescuable food from restaurants is similar; approximately \$34 million, but the broader geographical distribution and the lack

of a critical mass in any single location generally reduces the economic feasibility of rescuing food from restaurants.

The high return on investment for food rescue in the institutional sector is a consequence of the relatively high value of the rescued product, combined with the relatively low logistical costs of collecting food from large kitchens with dense geographic distribution, concentrated in city centers and industrial areas.

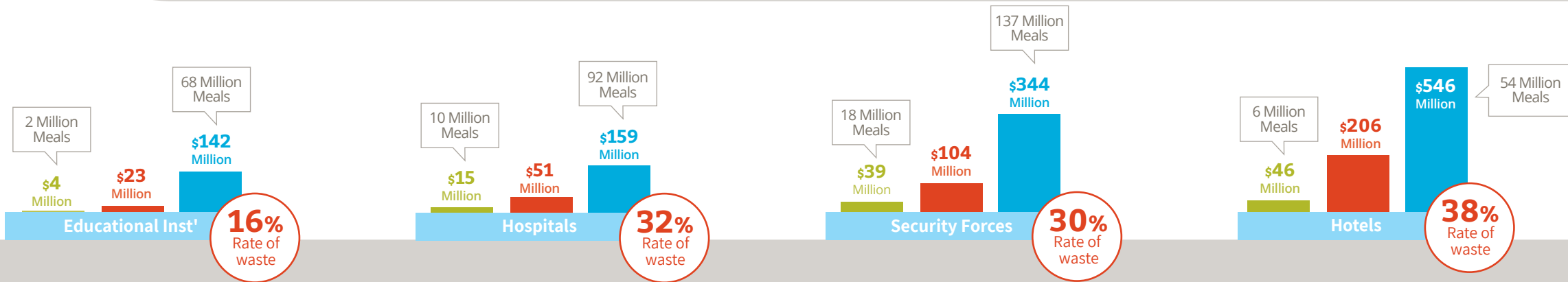
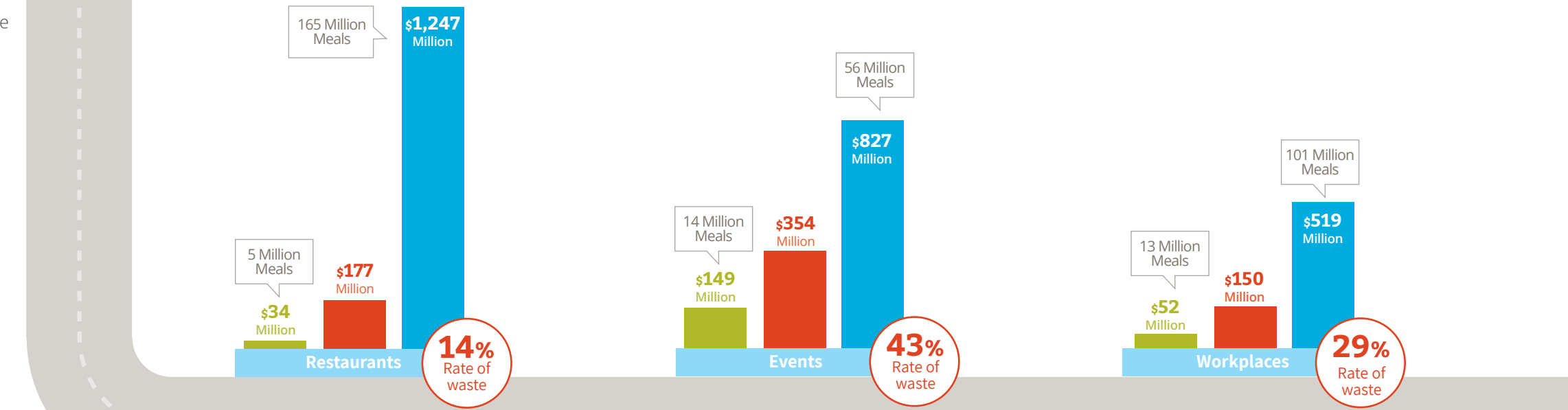
Estimated Food Waste in Institutional Consumption

	 Events	 Hotels	 Hospitals	 Security Forces	 Workplaces	 Educational Institutions	 Restaurants	Total
Relevant population (Thousand People)	141	91	190	225	420	377	453	1,879
Meals served (yearly) (Million Meals)	56	54	92	137	101	68	165	674
Food consumed (yearly) (Million Pounds)	269	205	163	344	390	75	273	1,720
Annual waste (Million Pounds) ¹¹	115	77	53	104	112	11	40	512
Rate of Waste (%)	43%	38%	32%	30%	29%	16%	14%	30%
Rescuable waste (Million Pounds)	49	18	15	37	40	2	7	168

11. This figure is based on the number of workdays relevant to each category. The estimate also distinguishes between different populations within each category.

Annual Summary: Wasted Food In the Institutional Sector Based on Cost of Food

- Rescuable waste
- Total waste
- Market size





**Food Waste and Rescue
in the Retail and
Distribution Sector**

\$1.2 Billion worth of food waste in the retail and distribution sector

50% About half of the rescuable food, by value, is in this sector

Food Waste and Rescue in the Retail and Distribution Sector

The volume of food sales in Israel is about \$22 billion a year, marketed to consumers in supermarkets, open markets, grocery stores, small retailers and the institutional sector. The total loss in the retail and distribution sector¹² is about 950 million pounds of food, valued at approximately \$1.2 billion, which constitutes about 6% of the retail sales of food. Of this amount, the value of the rescuable food is approximately \$973 million.

The main causes of food waste in the retail and distribution sector are food that has reached, or will soon reach, its expiration date, food with aesthetic defects in the packaging or product, and food damaged in the marketing process. Food manufacturers, distributors, and retailers have a clear economic incentive to minimize food waste by effectively managing the supply chain, maintaining proper storage conditions, and planning inventory.

Nevertheless, surplus food in the retail and distribution sector is inevitable, even with optimal planning of the distribution and marketing systems. This is because retailers are

required to ensure a wide, varied and available food supply at all times. Food consumers will not tolerate a shortage of the food items they seek, so the loss potentially caused to retailers because food products are not immediately available is far higher than the cost of offering surpluses. In other words, excess food is an inherent part of the retail sale process.

From an economic perspective, the fact that excess food is discarded rather than rescued represents a market failure, and therefore one of the government's policy challenges is to create a system of incentives that will save these surpluses and transfer them to the needy.

Naturally, the rate of loss is higher for fresh products and short shelf-life products, such as fruits, vegetables, bread and baked goods.

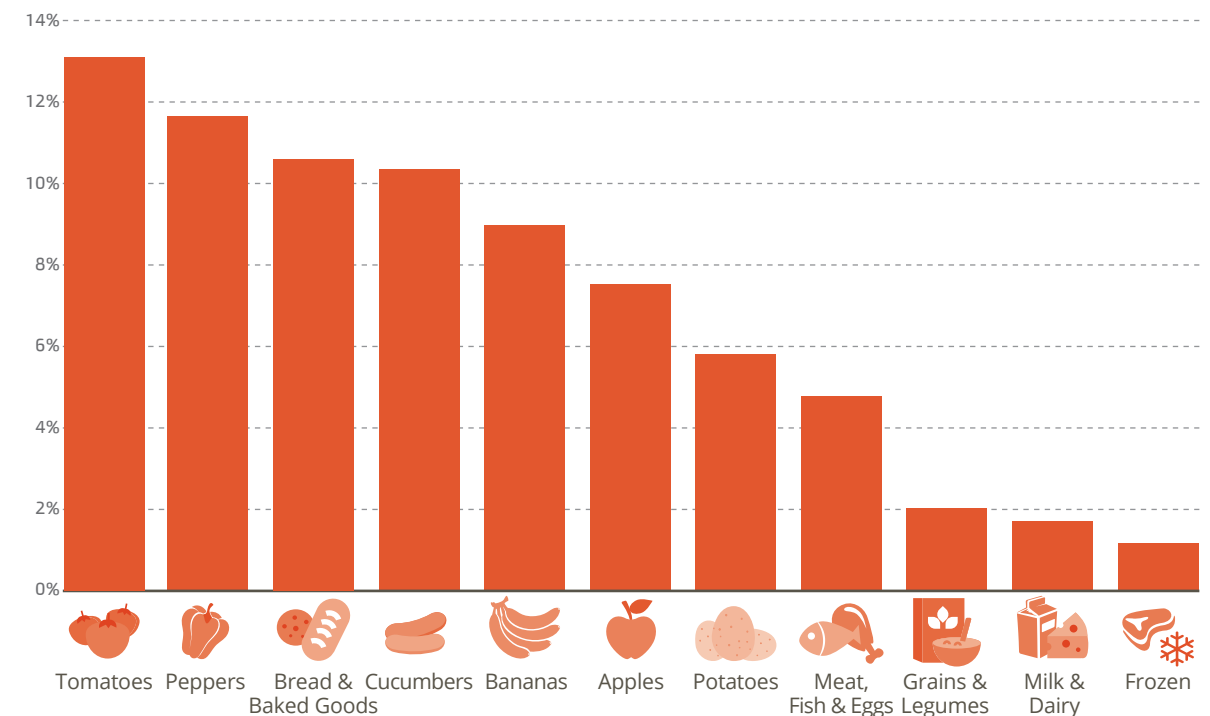
Compared to international data, Israel's rate of waste in the retail and distribution sector is similar to the accepted level in the developed world, despite the potential for higher losses because of Israel's warmer climate. This is evidence that the retail and distribution sector in Israel manage their inventories according

to a relatively high standard. The percentage of food waste in developing countries is higher, primarily due to the poor conditions during distribution, storage and marketing.

Simultaneously, changes in consumer preferences have increased the volume of food purchased from the large retail chains, and the transition from

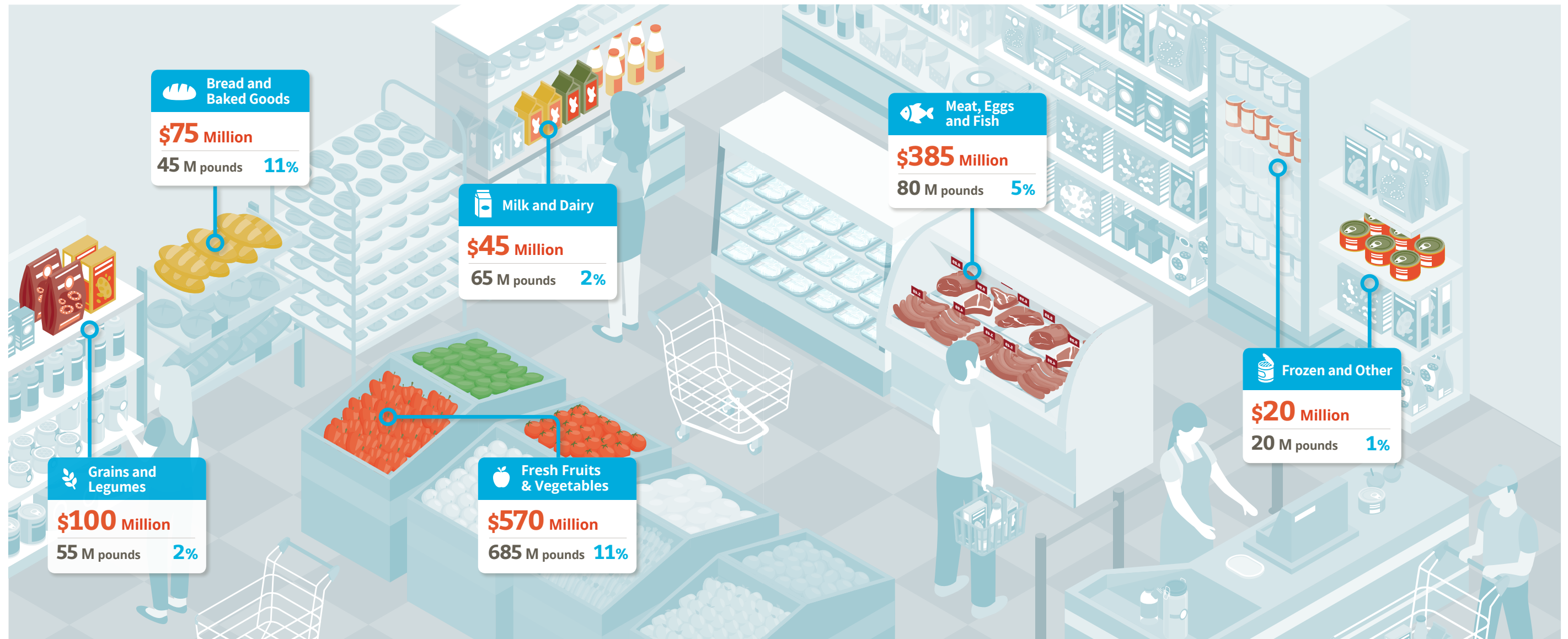
open markets to indoor, air-conditioned retail and distribution channels also has contributed to a reduce in waste. Moreover, research shows that the transition to large stores with a high volume of activity also contributes to waste reduction. Even more recently, there is nascent trend towards purchasing food on the internet.

Percentage of Waste in the Retail and Distribution Sector for Selected Food Items



12. For purposes of analyzing food waste, this report relates to "Retail and Distribution" as a single sector that includes losses incurred from the end of the production stage to the sale to the consumer: any loss of finished products that are ready for marketing by the manufacturers, wholesale loss, returns from retailers to manufacturers and loss in retailers. These constitute the loss in the retail and distribution sector.

Financial Loss in the Retail and Distribution Sector



Primary Causes of Waste



Expiration Date



Aesthetic Defects



Damaged Food

Value of Loss

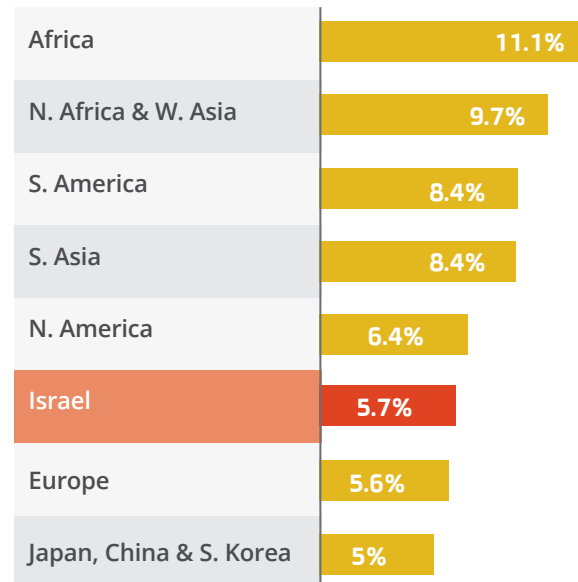
\$ 1.2 Billion

* Numbers are rounded for ease of presentation.

The development of direct purchase channels, in which food is transported directly to the end customer from a dedicated e-fulfillment center, bypassing the retail branch, may provide an additional contribution to a reduction in food waste levels in the future.

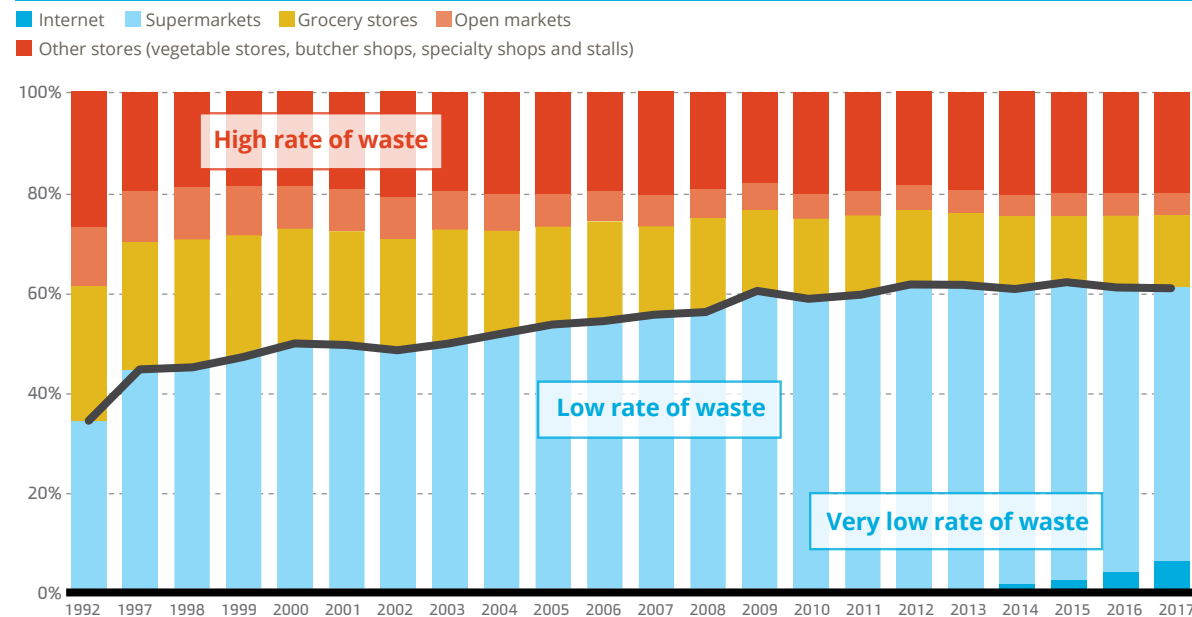
Waste in the retail and distribution sector have a high economic value because it includes the entire previous investment in growth, manufacturing, packaging and transportation. It is food that is ready for marketing and consumption that is lost before reaching the end consumer. In addition, due to the characteristics of waste at this stage, the vast majority of the food at this stage is rescuable, and whose loss can be prevented. As a result, this sector constitutes about 50% of the potential for rescue in monetary value, about \$973 million, out of total potential for rescue worth \$1.9 billion to the economy.

International Comparison: Rate of Waste in the Retail and Distribution Sector



Source: Food and Agriculture Organization (FAO) data, processed by BDO

Consumers Transition to Purchasing in Stores with Lower Percentages of Waste



Source: CBS, analyzed by BDO.

Food waste in the retail and distribution sector stems from three main factors:

1 Short expiration dates
 Food products by nature have a limited shelf life and therefore, it is inevitable that some products will reach their expiration date before being sold. Food that has reached its expiration date can no longer be sold or distributed to the needy. Therefore, rescuing food in the retail and distribution sector requires creating incentives that will facilitate inventory management to ensure that short-dated food is distributed to the needy before it reaches its expiration date. Such inventory management is workable, now that it is possible to estimate statistically the amount likely to be consumed, compare it to current inventory, and donate any surplus at an earlier stage, and certainly before the food reaches its expiration date. In addition, a review of food expiration classification policy is required.

2 Aesthetic defects in the product and defects in packaging
 Aesthetic defects damage the market value of food products, but in most cases does not represent an impairment of the nutritional value of such products. Loss of this food reflects a market failure since the defective food products maintain full nutritional value for the needy, despite its low market price. Some retailers handle this problem, for example, by selling products that have aesthetically defective packaging at a reduced price.

3 Damaged food
 Food damaged during logistical processes is a relatively minor cause of food waste. Damage can be caused at various stages in the retail and distribution process. Damaged food includes broken eggs, spilled products, fallen or damaged fruits and vegetables, remains in butcher shops and delis, etc. This food is not rescuable, but the amount is relatively small, because maximal efforts are being made to reduce damage and waste.

Rescue operations in the retail and distribution sector

Retailers, distributors and food manufacturers are working to reduce loss and rescue food due to economic considerations. Surplus food can be donated in several ways:

1. Selling of surpluses at reduced prices
 When products have short expiration dates or are damaged, retailers sometimes offer them at a reduced price. Economically, the transfer of these products to the needy at a reduced price, reduces the fear of reduced sales.

2. Contribution of food
 Centralized and coordinated on the basis of agreements with food rescue initiatives and / or as a local initiative on the branch level.

Food producers are also involved in food rescue:
 Some food manufacturers contract with NPOs and donate food with short expiration dates or production surpluses. In addition, products with defective packaging or an aesthetic defect in the product are sold in various secondary markets, if the flaws are detected in the factory and the food is still safe and fit for human consumption.



**Food Rescue:
Feasibility to the
National Economy**

\$1.2 Billion potential savings for the national economy from food rescue

20% Rescuing 20% of the food waste could close the food insecurity gap in Israel

Food Rescue: Feasibility to the National Economy

The rescue of 990 million pounds of food annually, constituting 20% of all food waste in Israel, would fully bridge the food consumption gap between the normative expenditure of the general population and those suffering from food insecurity.

According to BDO and Leket Israel estimates, the current rescue multiplier is 3.6, meaning that every dollar (\$1.0) spent on food rescue saves food worth \$3.6. Therefore, the cost of rescuing \$834 million worth of food would be only \$230 million. This is equivalent to the full value of the gap in spending on food consumption by the population suffering from food insecurity in relation to the normative level of consumption.

Food rescue alleviates food insecurity at a 72% cost savings, and also provides significant social and environmental benefits.

Without food rescue, it would require an annual cost of \$834 million to fully finance this gap. Therefore, food rescue is clearly preferable to the alternative of attempting to bridge the food insecurity gap by means of allocations, donations, subsidies or other methods of support for the needy. Food

rescue allows for reaching the same social goal at a significantly lower cost, approximately \$230 million annually. Specifically, food rescue alleviates food insecurity at a 72% cost savings, and also provides significant social and environmental benefits.

The problem of food insecurity is not expressed by the amount of money expended on food purchases; it also affects the types of food consumed. An analysis of average consumption basket expenditures by the portion of the population experiencing food insecurity reveals that food insecurity is accompanied by low expenditures particularly for fruit, vegetables, meat and fish, which have high nutritional values.

The gap in expenditure for highly nutritious food such as meat, poultry, fish, and fresh fruit and vegetables ranges from 55% to 70% of the normative expenditure, while the gap for other products, like potatoes, bread and pita, is lower, from 15% to 25%.

Food insecurity is accompanied by low expenditures particularly for fruit, vegetables, meat and fish, which have high nutritional values.

Food Rescue: Summary of Estimated Feasibility to National Economy (\$ millions/year)

Percentage of Rescued Food from Food Waste	1% (currently)	5%	10%	20%
Recovered Food (in million pounds)	60	245	485	990
Food Rescued Share of Food Insecurity Gap	6%	24%	48%	100%
Value of Rescued Food	40	200	400	834
Cost of Food Rescue	8	55	110	230
Savings to National Economy (before external factors)	30	145	290	604
Environmental-Social Contribution (FAO)	40	153	306	640
Total Value of Food Rescue to National Economy (\$ millions)	70	300	580	1,244

Source: BDO estimates

Economic principles dictate that income in goods is an inferior alternative to monetary income, because it deprives those receiving support the freedom to allocate resources according to their full range of needs. Therefore, in principle, the general tendency is to provide monetary support over the direct provision of products. This economic principle is also summarized as, "Subsidize people, not products." However, food rescue offers a unique set of circumstances in which there is a clear economic preference for supporting the needy with products over money. This advantage stems from the specific characteristics involved in transforming waste into food (i.e., that every dollar invested in food rescue generates a direct economic value 3.6 higher than the cost). Moreover, taking into consideration the FAO's estimates of external environmental and social impact, the benefit to the economy increases to 7.2 times that of the cost.

In this context, it should be noted that those suffering from food insecurity also suffer from financial

Food rescue offers a unique set of circumstances in which there is a clear economic preference for supporting the needy with products over money. This advantage stems from the specific characteristics involved in transforming waste into food (i.e., that every dollar invested in food rescue generates a direct economic value 3.6 higher than the cost).

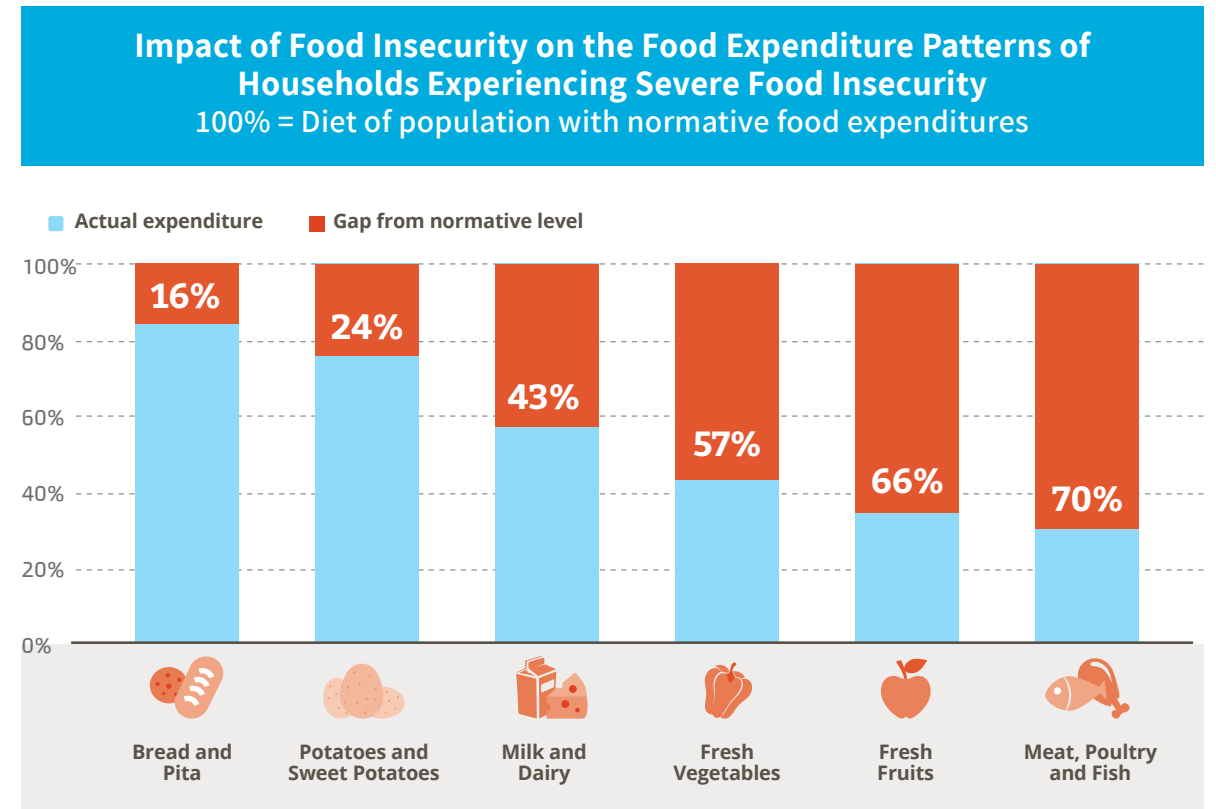
insecurity, evident in consumption gaps of other basic necessities (housing, health, education, etc.). It is reasonable to assume that food rescue would enable households to then choose to allocate some

For the national economy, such efforts would generate a savings of \$604 million annually, bridging the gap between the value of rescued food and food rescue costs.

of the effective increase in their disposable income to consuming other goods. Socially speaking, these households view consumption of such products as prerequisites for ensuring their financial security. Therefore, beyond the direct value of the rescued food distributed to them, they also benefit from having more resources available to purchase other goods and services.

In September 2015, the US government established a national food waste reduction goal of 50% within fifteen years. Analysis of the data in this report shows that rescuing even less than half of the American goal, and contributing it to the approximately 450,000 households suffering from food insecurity in Israel, would provide enough food equivalent to fully cover the gap in their food intake compared to the normative level. For the national economy, such efforts would generate a savings of \$604 million annually, bridging the gap between the value of rescued food and food rescue costs. This is even before considering the added benefits to the national economy from reducing poverty and inequality, and before factoring in the external environmental benefits.

It should be emphasized that the incremental realization of a 50% national food waste reduction goal, over a fifteen-year period, is not expected to reduce the volume of agricultural production in Israel for local consumption compared to current conditions. Rather it is expected to only slow the growth rate of local food production.



Source: BDO analysis and Survey of Household Expenses, CBS



Yuval Shargian and Yiftach Verener, farmers donating surplus produce to Leket Israel for more than 15 years. Photo Credit: Leket Israel Archive



**Food Waste:
How Much Food
Can Be Rescued?**

50% of lost food is rescuable and can be used to feed underprivileged populations experiencing food insecurity

Food Waste: How Much Food Can Be Rescued?

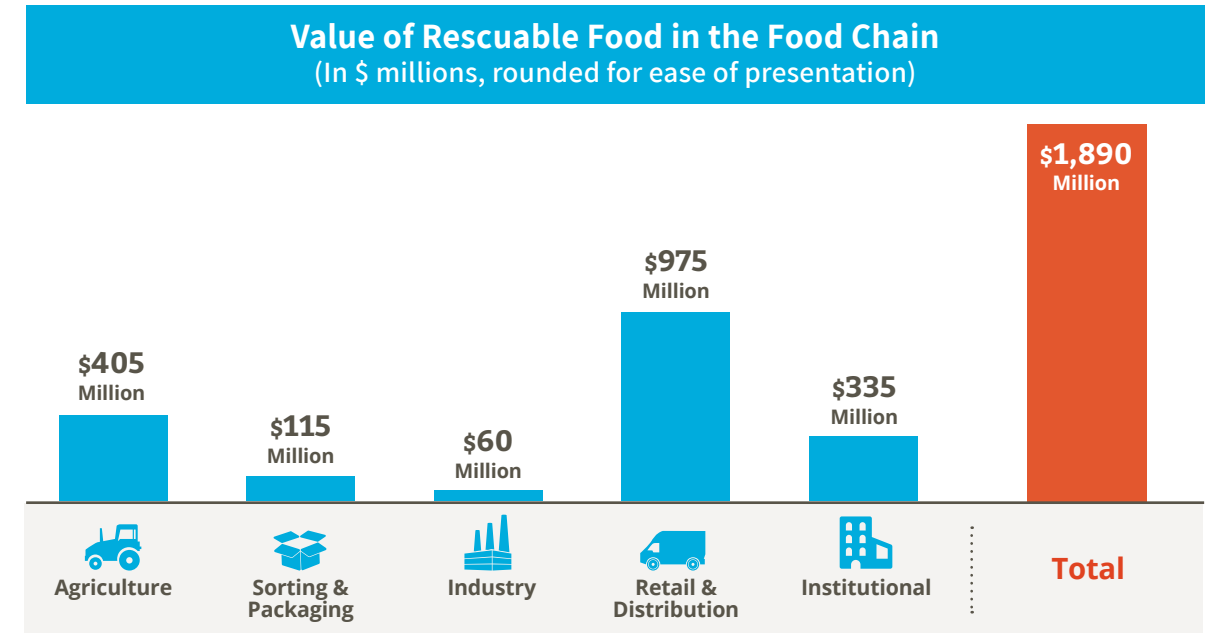
Approximately 35% of food produced in Israel is lost or wasted during the production, distribution and consumption stages, totaling approximately 5.5 billion pounds annually. This translates to food waste valued at \$ 5.5 billion, equivalent to 1.5% of the GNP. About half of this waste is considered unfit for human consumption and is therefore not considered potentially rescuable.

In terms of food rescue, the most important component is edible foods (fit for consumption with nutritional and health benefits) that do not reach the consumer. There are various reasons for loss in each of the stages of the food value chain. The common denominator is lack of economic viability for food producers (i.e. farmers, manufacturers, distributors, etc.) to invest additional resources in the more advanced stages of production and distribution.

Reducing food waste, either by prevention or by rescuing surplus, is a primary public objective and a top priority on the international agenda. The estimated amount of food fit for rescue is derived from the value chain model designed specifically for the food industry. Every type of food and its loss, at each stage of the value chain, was analyzed and classified as rescuable or un-rescuable (unfit for consumption).

It is important to note that classification of rescuable foods does not address economic viability of rescue, but rather the feasibility of using wasted food to feed people.

The value of rescuable food is approximately \$2 billion, with the value of the loss increasing at each stage along the length of the value chain, as more resources have been invested in raising, producing, packaging and transporting the food that is then wasted. Most of the value of food waste is concentrated in the retail and distribution sector, because the food lost during these stages is ready for marketing and consumption, meaning that it is being discarded before reaching the final consumer.



Source: BDO estimates.



Dining hall at Ariel Sharon Training Base (Ir Habadim) which donates prepared food to Leket Israel. Photo credit: Ariel Sharon Training Base

The value of rescuable food is approximately \$2 billion, with the value of the loss increasing at each stage along the length of the value chain, as more resources have been invested in raising, producing, packaging and transporting the food that is then wasted. Most of the value of food waste is concentrated in the retail and distribution sector, because the food lost during these stages is ready for marketing and consumption, meaning that it is being discarded before reaching the final consumer.

According to our estimate, roughly 50% of food waste is rescuable and can, given economic viability and appropriate resources, be used to feed needy populations suffering from food insecurity.

Food waste during household consumption was not classified as rescuable. There are various approaches to the issue of food waste in household

consumption. Western culture is based on a notion of consumerism and prosperity, in which consumers extract benefit and enjoyment, not only from food consumption, but also from having a range of selections and even excess. Economically, as long as consumers pay the full amount for purchased products, there is no justification for restricting consumption. The problem is that food production entails the use of natural resources and has an environmental impact, and these external costs are not calculated in the price paid by consumers for food. We did not examine these aspects, however, these circumstances might justify actions to encourage food recovery - perhaps with governmental sponsored public relations campaigns, as has been done in several western countries—to raise public awareness regarding the external impact of producing food that is left unconsumed.

Rescuable Food

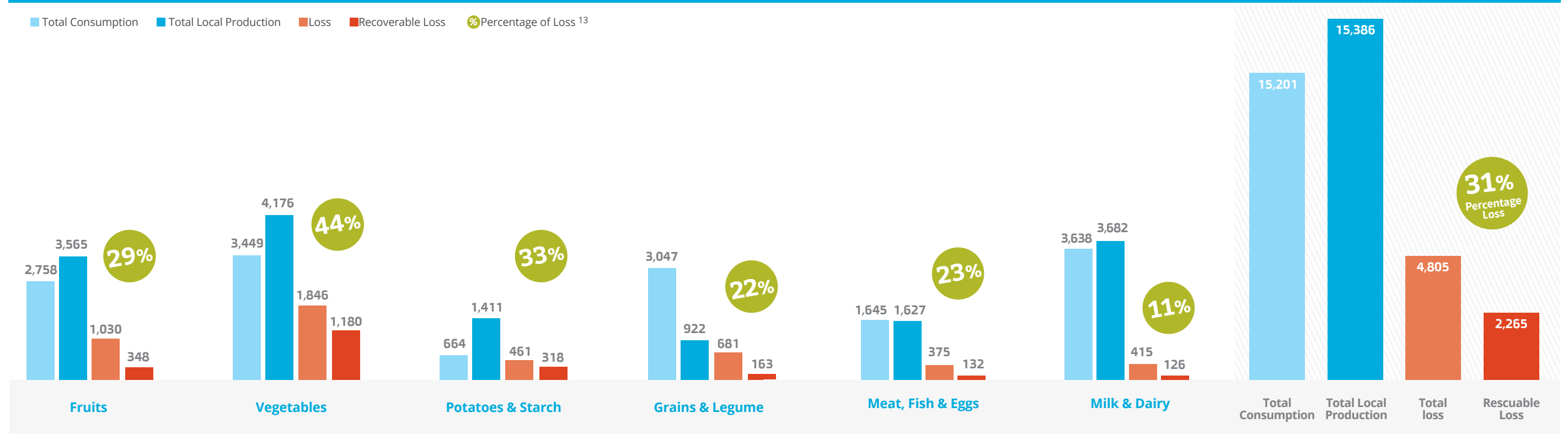
- ✓ Pre-harvested edible agricultural produce
- ✓ Aesthetically flawed agricultural produce
- ✓ Agricultural produce not sold in wholesale markets
- ✓ Unsold food surplus in markets/stores
- ✓ Surplus prepared food from catering, industrial kitchens & restaurants
- ✓ Packaged food with damaged packaging or misshaped
- ✓ Food nearing its sell-by date that will not be sold

Food Waste Unfit for Human Consumption

- ✗ Sick livestock or carcasses
- ✗ Diseased food
- ✗ Damaged or contaminated food (beyond aesthetic defects)
- ✗ Spoiled food
- ✗ Production leftovers (peels, seeds, skin, fat)
- ✗ Food already served and left unconsumed

Estimate Amounts of Rescuable Food in Israel (million pounds)

■ Total Consumption ■ Total Local Production ■ Loss ■ Recoverable Loss ● Percentage of Loss ¹³



13. Waste of grains and legumes was calculated as a percentage of consumption because the majority of grains are imported to Israel.

10

**Food Security: How
Much Food is Required
to Close the Food
Security Gap in Israel?**

990 million pounds of food is necessary to close the food security gap in Israel

Food Security: How Much Food is Required to Close the Food Security Gap in Israel?

Israel's Rank in Inequality and Food Security			
	Israel	OECD Average	OECD Index*
Gini Index (inequality)	0.35	0.31	7
Poverty Rate	17.7%	11%	2
Food Security Index	79	79	19
(%) Food Expenditure to PCE	17%	14%	7

Source: USDA and Global Food Security Index
*Israel's rank in the OECD

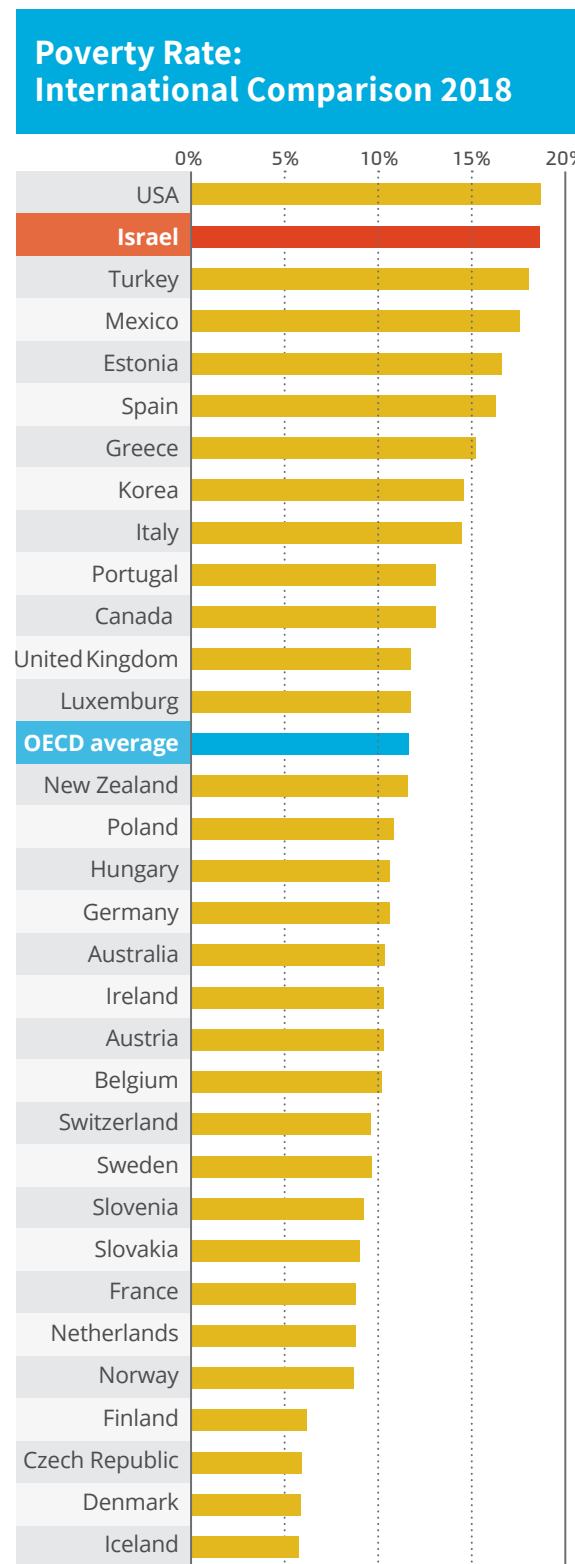
According to the Organization for Economic Cooperation and Development (OECD) data that examines the extent of poverty after taxes and allocations (with the poverty line defined as 50% of median disposable income), Israel's situation has improved in comparison to last year. Within OECD member countries, Israel has the second highest poverty rate, after the United States. Conversely, the National Insurance Institute Poverty Report contends that poverty among Israeli families decreased from 18.5% in 2016 to 18.4% in 2017. This gap is apparently the result of using a different scale for weighing and presenting the benefit of household size.

OECD data shows an improvement in the Gini Index of Inequality last year, even though Israel continues to suffer from a high level of inequality. Israel and Latvia were tied in seventh place for inequality, following Mexico, Chile, Turkey, the US, Ireland and New Zealand. Inequality in distribution of income is one of the greatest challenges facing the Israeli economy, and food insecurity is a consequence of income inequality.

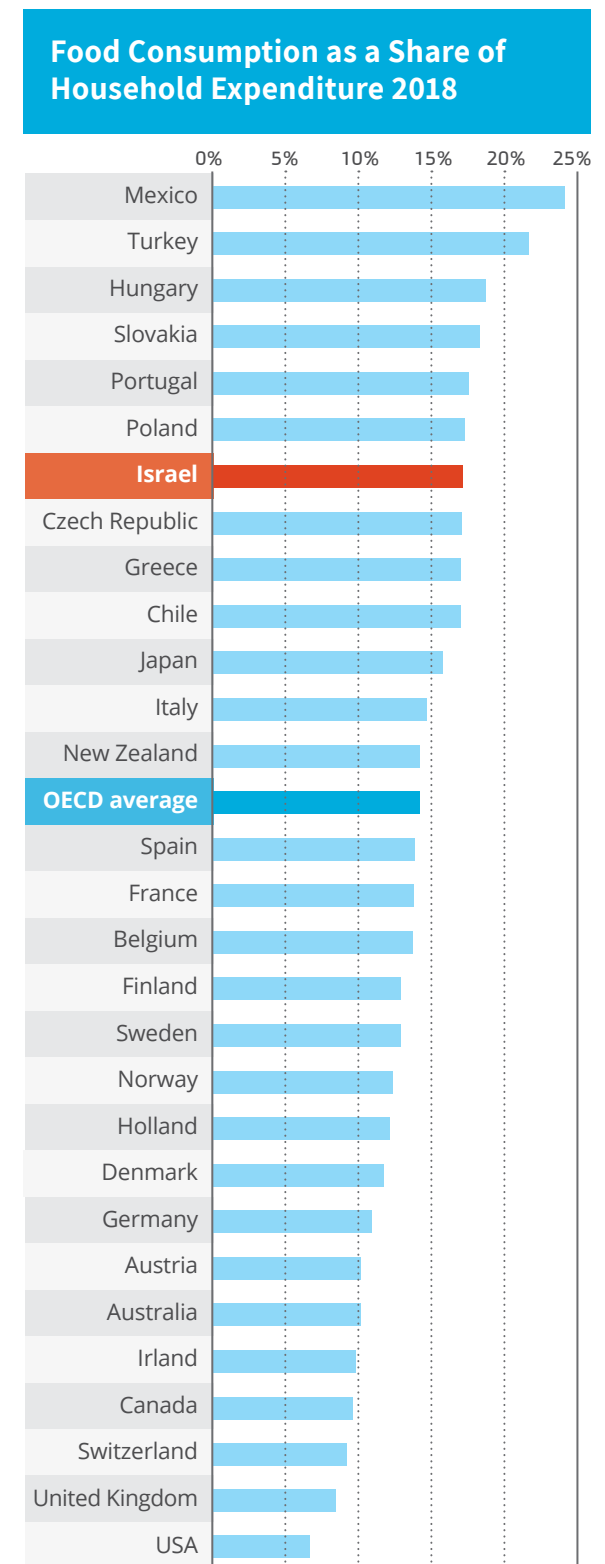
Using the Food Security Index as the basis of comparison, Israel dropped one place because Portugal's improved score while Israel's score remained almost unchanged. For food consumption as a share of expenditures, Israel moved down two places due to a decrease in food's share of consumption in Chile and Greece.

Relying on World Health Organization definitions, also used by the National Insurance Institute of Israel (NII), food security is based on three key pillars:

- 1 Food Availability:** Sufficient quantities of food available on a consistent basis
- 2 Food Access:** Sufficient resources to obtain appropriate foods for a nutritious diet
- 3 Food Use:** Awareness of proper use of food as well as adequate water and sanitation



Source: Economist 2018 Global Food Security Index



Using these criteria, which are primarily subjective, the NII estimates¹³ that approximately 18% of Israel's population suffers from food insecurity; of this number, 8.8% are in severe food insecurity, and an additional 9% in moderate or mild food insecurity.

According to The Economist 2018 Global Food Security Index, Israel is ranked 19th in food insecurity among member states of the OECD. Among OECD countries, Israel is ranked 7th in household expenditure on food.

Comparison of inequality and poverty data reveals that the US and Israel have similarly high inequality and poverty levels, however food security in the US is paradoxically among the highest in the developed world. It seems that the high US measure of food security, despite high general inequality, is the result of many years of public awareness to the problem of food insecurity, evident in programs like SNAP: Supplemental Nutrition Assistance Program (food stamps) that ensure adequate food provisions for the needy. Furthermore, the US is a pioneer in supporting food banks' efforts to recover surplus food and distribute it to underprivileged populations, and is also a world leader in establishing policies to remove obstacles for food waste and reuse.

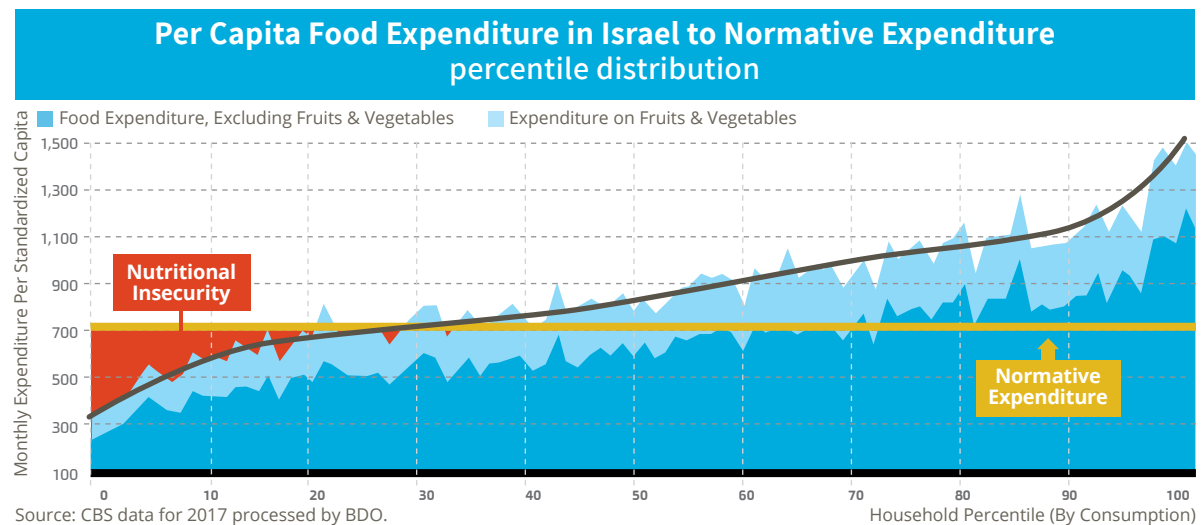
Despite similar inequality and poverty rates in Israel and the US, food expenses as part of the Personal Consumption Expenditure (PCE) in Israel are among the highest in the world, measured at 17%, 2.5 times the rate in the US. Therefore, a policy of food rescue and distribution to the underprivileged population would be an especially effective welfare policy in Israel, where a significant portion of household expenditure is allocated to food.

The definition of food security is subjective. In order to examine food rescue effectiveness as a policy measure to increase food security in Israel, the report used the methodology of Chernichovsky and Regev¹⁴ which defines normative food expenditure as a measure of a household's expenditure basket that remains constant even with an increase in household income.

To examine normative food expenditure¹⁵, the report compares expenditure on food of the lowest percentiles relative to normative levels. Analysis of the data demonstrates that in the two lowest percentiles (in terms of consumption per standardized capita), food expenditure was roughly half that of the normative level.

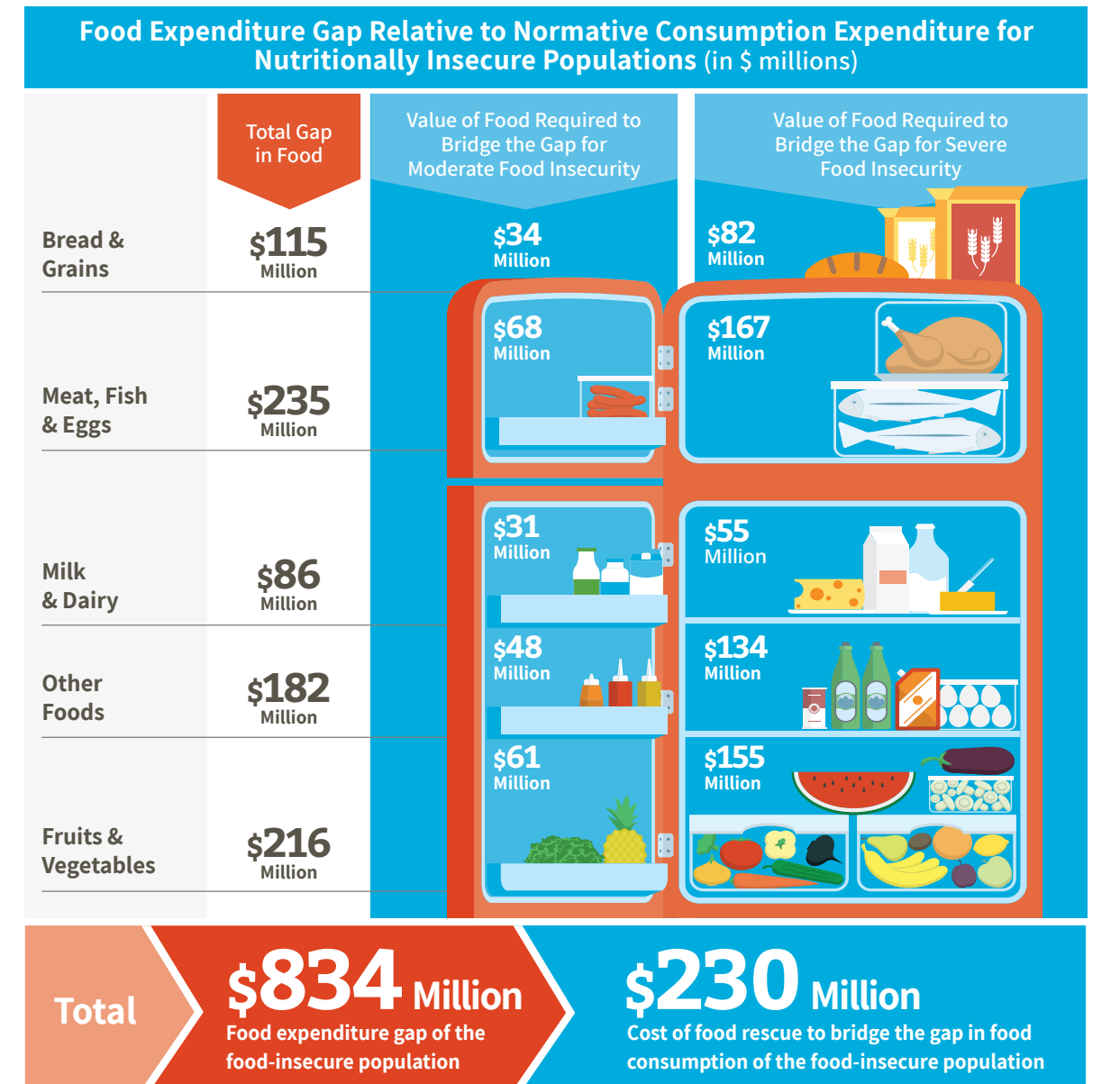
The volume of food required to bridge the gap between actual food consumption of the

13. Food Security Survey 2016 - Main Socioeconomic Findings, National Insurance Institute.
 14. Patterns of Expenditure on Food in Israel, Taub Center, 2014.
 15. Excluding dining out, alcoholic beverages and carbonated beverages



food insecure population and the normative consumption level (average levels of second-to-fifth percentiles), is valued at approximately \$834 million. The cost of eliminating this food expenditure gap relative to normative levels for the severely nutrition-deprived population (9% of Israeli households) is estimated at \$591 million, with an additional \$243 million required to assist populations experiencing moderate nutritional insecurity.

The rescue of 990 million pounds of wasted food each year, constituting 20% of overall food waste in Israel, would enable the closing of the gap in expenditure on food in Israel relative to the normative expenditure. Accordingly, an estimated \$230 million would enable the rescue of food worth \$834 million, equivalent to the entire value of the gap between the food consumption expenditure of food insecure populations and normative expenditure levels.





**Developments
in Food Rescue:
Globally and in Israel**

Oct. 23, 2018

The Israeli Parliament passed the Food Donation Act, a law to encourage the rescue of surplus food

Developments in Food Rescue: Globally and in Israel

In recent years, increasing awareness and acknowledgement of the global problem of food waste has prompted international organizations and countries around the world to adopt measures to reduce this waste. A partnership between prominent international organizations, including the United Nations (UN), has announced the launch of the world's first standard for measuring food waste.



The UN and its Food and Agriculture Organization (FAO)

are working to implement a uniform international standard for estimating the extent of food waste worldwide. This effort is expected to facilitate compliance with the goal set by the UN in 2016: reducing the amount of food waste by 50% by 2030.

During 2018, the FAO published a series of guidebooks for children, "Do Good: Save Food!" for four different age groups, in order to promote youngsters' awareness of the economic, social and environmental consequences of food waste. The guidebooks are distributed on the Internet for public use, and include actions that children can take to reduce food waste.



European Parliament

In March 2017, the European Parliament set a voluntary target for reducing food waste in the European Union by 30% by 2025, and by 50% by 2030.



United States of America

In September 2015, the US Federal Government

declared a national goal of reducing food waste by 50% by 2030, with large food manufacturers including Unilever, Kellogg's and Nestlé expressing their support. These large manufacturers announced a series of measures to reduce food waste, and the adoption of technologies for measuring and reducing waste.

In 2018, legislation was introduced in Missouri requiring the State's largest businesses to donate their surplus food; every business with a sales turnover exceeding \$5 million per year would be required to donate 10% of its surplus food to NPOs.



United Kingdom

In 2017, the House of Commons Environment, Food and Rural Affairs Committee published a report on food waste in England, and made several recommendations, including that the government adopt a national strategy to ensure the collection of wasted food throughout the UK. The government requires businesses above a certain size to publicly report their food waste and to separate food in a gradual process.

In 2016, the UK adopted a multi-year plan to reduce food waste by 20% during the next decade. The program will be managed by the Governmental Food Standards Agency (FSA) in cooperation with the Waste and Resources Action Programme (WRAP). The program will be implemented in cooperation with private sector organizations along the food-manufacturing chain, and will be





Source: Food and Agriculture Organization of the United Nations, 2019, Do Good: Save Food! Education material package on food waste reduction in primary and secondary schools. For age group 4 (fourteen years up), <http://www.fao.org/3/ca0995en/CA0995EN.pdf>. Reproduced with permission

accompanied by a campaign entitled, "Love Food, Hate Waste". According to FSA, the campaign will save approximately \$26 billion over the coming decade.


Tesco – The British retail giant is a leader in food recovery and is working hard to reduce food waste among its network of stores, and throughout the value chain. In 2018, Tesco announced that all of its branches in the UK would no longer discard food fit for human consumption. Furthermore, Tesco is working with the FoodCloud app, an app dedicated to food rescue (see page 76).

 **Norway** In 2018, the Norwegian Government announced a goal to reduce food waste by 20% by 2020. It further announced a target of reducing food waste by 50% by 2030 and in June 2017, it signed an agreement with the food industry to achieve this goal.

 **Germany** In 2016, the German government set a goal of reducing food loss by 50% by 2030. Additionally, the Minister of Agriculture also allocated a budget of \$11 million to finance food rescue projects.


 **France** Since January 1, 2016, catering services and restaurants that serve more than 150 customers per day are required to recycle food if the waste totals more than 22,000 pounds annually. Catering services and restaurants that do not comply are liable to be fined \$85,400.

In February 2016, France became the first country in the world to prohibit supermarkets from discarding food. The law passed unanimously in the French Senate, and effectively forces all supermarkets and grocery stores with an area in excess of 4,300 square feet to donate surplus food to food banks rather than discarding or destroying it. According to the French Environment and Energy Management Agency food wastage in France is valued at approximately \$ 18 billion annually.


 **Italy** During 2018, Italy enacted a law prohibiting supermarkets from discarding food and requiring them to work with


food rescue organizations, similar to the French law. The main difference in the Italian law is that while the French impose fines on violators, the Italians offer incentives in the form of tax breaks to those businesses that donate their surplus food.

 **Australia** In 2018, the Australian Government approved a national plan to reduce surpluses, allocating a budget of \$130 million for ten years, dedicated to this purpose. In addition, in 2017 the Australian Government set a target to reduce the amount of food waste the country produces by 50% by 2030. In Australia, the annual financial cost of food waste is estimated at \$20 billion.

 **Denmark** is a pioneer in food waste prevention. As early as 2015, it announced a 25% percent reduction in food waste in five years. In June 2016, the Government of Denmark launched a subsidy program totaling \$750,000 for projects that reduce food waste across the supply chain.

 **Czech Republic** In 2018, a new amendment to the country's Food Law came into force in the Czech Republic that, similar to France's law, requires retail chains that own over 4,300 square feet to donate surplus food to food banks, thereby reducing food waste.

 **Argentina** In September 2018, Argentina passed a "Good Samaritan" law similar to Israel's Food Donation Act that encourages food rescue.

 **South Korea** reduced food waste by 10% in four years, following a 2013 policy requiring households to pay for the amount of food they discard. Food that is discarded is recycled for animal feed or bio-gas used to generate energy.



Electrolux and Karma create new smart fridge to cut food waste. Karma CEO Hjalmar Ståhlberg Nordegren and Electrolux head of digital innovation Tove Chevalley. Credit: Karma


Food Rescue Applications

Innovative technology has not bypassed the field of food rescue. Throughout the world there exists a variety of apps designed to help people, companies and agencies along the food value chain reduce their food waste and increase food rescue.

 The FoodCloud app allows local charitable organizations to stay informed about surplus products intended for donation at the end of each day and to collect relevant items from store branches. The app has a function for uploading descriptions of products; it also alerts users when food is available for collection so that they can avoid unnecessary travel. The app operates in partnership with the retailer Tesco.

9,500+ users - communities and organizations
44+ million pounds of food have been distributed since 2016, equivalent to approximately 45 million meals


Countries: UK and Ireland

 The Karma app allows consumers to buy unsold food from restaurants, cafés and grocery stores at the end of the day, for 50% off the normal price.


400,000+ users, (in cooperation with some 1,500 businesses)

440,000+ pounds of fresh food have been rescued Since 2016

Country: UK

 The Wise Up on Waste app was issued by Unilever International for professional kitchens. It helps chefs and catering companies track and reduce food loss, thereby saving costs.

Countries: Belgium, France, Netherlands, Spain, and Australia

 The Olio app facilitates the transfer of edible food between private individuals and local businesses, free of charge. The businesses that donate food pay OLIO for transporting it, thereby reducing the amount of food waste in their business.

710,000 users

1.1 + million portions of food have been distributed From 2015 to date

Country: UK

 The Copia app links restaurants, hotels, hospitals, cafeterias and other businesses to charitable organizations. Businesses that donate food pay between \$20 and \$40 per truck plus 55 cents per pound of food distributed to people in need. Donors are motivated to pay for food collection because it helps them save on the cost of waste removal, especially in those US states where businesses are charged different fees for waste removal.

900,000 meals approximately have been rescued from 2016 to date

Country: United States

 FeedHV is a technological solution that connects food donors to NPOs providing food to the needy. The donations consist of prepared food that has not been served or fresh produce, donated by farms, restaurants, catering services, grocery stores, hospitals and universities.

44,000+ pounds of food rescued in 2018

Country: United States

 The GOODR app developed to assist businesses track their food donations to charitable organizations, providing businesses with information and tracking when food is collected for donation. Although the businesses pay for the transportation of the food, the food donations help the businesses reduce fees incurred for waste removal while also helping to decrease greenhouse gas emissions from landfills. The cost of the transportation varies based on the volume of food collected and ranges from \$2,500 to \$15,000 per month. It is estimated that for every dollar a business spends on food transportation, it saves \$14 in waste removal fees.

990,000 pounds of food have been rescued from 2017 to date, the carbon emissions of the participating businesses were reduced by 27%, and their expenses were reduced by approximately \$3.1 million

Country: United States

 **FOOD RESCUE US**

The Food Rescue Us app connects grocery stores and restaurants with surplus food to volunteers who provide it to needy families.

700 businesses currently donating surplus food

575 NPOs that collect these donations

37 million pounds of fresh food rescued from 2011 to date

26 million+ fresh meals have been rescued

Country: United States



The Olio app facilitates the transfer of edible food between private individuals and local businesses. Credit: AnnabelStaff.



Israel

In recent years, increasing public awareness of the importance of food rescue has been accompanied by some initial first steps taken in the public and governmental realm to encourage these efforts. The most significant and foundational of these steps was the recent approval of Israel's Food Donation Act.

In October 2018, the Israeli Parliament approved the Food Donation Act during its third reading. The purpose of the law is to protect everyone involved in food donation: donors, NPOs, and their volunteers – all of whom must meet food safety standards – from liability for damages that might be caused by the food they donate. The purpose of the law is to encourage food rescue.

Leket Israel

Leket Israel is the largest food rescue organization in Israel. Each year, it rescues millions of pounds of surplus agricultural produce and millions of meals to benefit hundreds of thousands of needy people throughout the country. To this end, the organization carries out a wide range of activities to rescue food including picking fresh produce on farms, collecting agricultural produce from fields and packing houses, and rescuing nutritious surplus prepared meals from a variety of sources. In 2018, Leket Israel rescued approximately 2.2 million surplus meals from IDF bases, hotels, catering companies, corporate cafeterias, and restaurants, as well as some 35 million pounds of agricultural produce collectively worth \$42 million (unaudited numbers). Working through its network of 200 partner NPOs throughout the State of Israel, the surplus food benefits 175,000 needy people every week. Leket Israel trains its partner NPOs in food safety and requires them to comply with strict rules on the subject, while also helping them

acquire appropriate infrastructure to assist in their compliance with food safety guidelines.

Among the needy populations that receive rescued food, most lack consistent access to healthy food as well as knowledge or awareness about nutrition and its impact on health. To help address this problem, the organization's nutritionists conducted 70 workshops in 2018 in which underprivileged groups learned how to ensure healthy nutrition on a limited budget.

Leket Israel serves as a model with extensive knowledge and experience, and as an example for food rescue organizations around the world. The Global Foodbanking Network (GFN) recognizes Leket as Israel's national food rescue organization.

Joseph Gitler, Chairman of Leket Israel, was elected to serve as a member of the GFN Executive Committee; additional representatives of Leket Israel also participate in GFN conferences. Representatives of food banks from around the world come to learn about the activities of Leket Israel, which is considered an international leader in rescuing fruit and vegetables, and cooked food.

Ministry of Labor, Social Affairs and Social Services

In 2017, the National Food Security Initiative was launched, in cooperation with Leket Israel and Eshel Jerusalem-Colel Chabad. In this framework, electronic benefit transfer cards worth \$140 are distributed to more than 10,800 families suffering from severe food insecurity. The pilot program was launched in February 2017 in 36 municipalities around the country, at a total cost of approximately \$18 million annually.

When a family is accepted into the program, the Ministry of Labor and Welfare issues a card loaded with \$140 each month via Eshel Jerusalem-Colel Chabad. The card can be used for purchasing food products worth \$70 (not including tobacco and

alcohol) in select supermarkets and local stores, and the purchase of vegetables, fruits and dry food from food rescue (delivered to the families' homes) worth an additional \$70 (\$50 for fruits and vegetables and \$20 for dry food).

In July 2018, the Ministry of Labor, Welfare and Social Services published a research¹⁶ report examining the effectiveness of the National Food Security Initiative. Of the 968 families involved in the study, about 150 families benefited from increased food security, with some 70 families moving from severe food insecurity to moderate food insecurity. Approximately 80 families no longer experience food insecurity.

The authors of the study noted that the scope of assistance is relatively low and therefore many families continue to suffer from food insecurity. Approximately 61% of the families used the resources made available by the donations for food consumption, rather than consuming other goods and services. This reveals that the current level of assistance is insufficient to relieve them of food insecurity.

Ministry of Agriculture

The Ministry of Agriculture and Rural Development is leading an inter-ministerial process with the goal of formulating policy to reduce food waste and the depreciation of fresh produce, with an emphasis on fruits and vegetables.

The Ministry has introduced several measures to reduce food waste, including:

- Introducing an educational program in partnership with the Ministry of Education to encourage smart consumption of fruits and vegetables in the school system.
- Researching the problem of food waste and proposing solutions to prevent waste during the marketing of fruits and vegetables in Israel.
- Initiating a pilot program to examine the

feasibility of transferring surplus produce to the needy.

- Formulating marketing strategies to encourage the sale and purchase of "ugly" fruits and vegetables.
- Publication of guidelines by the Institute of Postharvest and Food Storage at the Volcani Institute on the proper storage of fruits and vegetables in Israeli households.
- Publishing guidelines for proper storage of fruits and vegetables for wholesalers and retailers.
- Encouraging the establishment of farmers' markets.

Initiatives in cooperation with Leket Israel

In addition, the Ministry of Agriculture is conducting a joint venture with Leket Israel in which Bedouin workers are employed for harvesting. The field coordinator handles all aspects of harvesting activity, and a dedicated vehicle transports the harvesters to the harvest site and then back to their home communities. It is worth emphasizing that the workers receive fair salary and social benefits. Leket Israel's trucks transport the harvested crops from the fields to the Logistics Center, where the produce is sorted, packed, and sent via the organization's trucks to ten distribution centers in six Bedouin communities.

In addition, a Bedouin dietician, working on behalf of Leket Israel, runs Nutrition for Life workshops adapted to Bedouin culture. Each workshop consists of four sessions with content emphasizing proper nutrition and the importance of healthy eating on a limited budget. This is combined with content related to personal and family conduct. Reports from the field attest to the personal empowerment that accompanies the participants' acquisition of knowledge and tools.

16. National Food Security Initiative - Evaluation Study, Ministry of Labor, Social Affairs and Social Services, 2018

Government Companies Authority

The Government Companies Authority intends to publish a set of tools for corporate social responsibility to be used by government companies. In furtherance of joint efforts by Yedid, Leket Israel and the Government Companies Authority, the tools for corporate social responsibility will also include information on donating food to food rescue organizations. This is based on the understanding that when a government company donates its surplus, this draws the management's attention to wasted resources that are usually unnoticed, thereby facilitating self-improvement and streamlining of operations.

Legislation of Tax Benefits for Donating Surplus Food¹⁷

In 2017, MKs Merav Ben-Ari, Roy Folkman and Ayelet Nahmias-Verbin proposed legislation that would grant a tax credit for food donations worth 50% of the value of the donation.

The purpose of the bill is to encourage manufacturers, marketers, importers, and others working in the food industry, and growers of agricultural produce and animal-based food products, to donate food, including surplus food, to NPOs that distribute food for free to the populations experiencing food insecurity, by offering a tax credit.

Similar laws already exist in other countries, including France, Italy, and the US. In France, a law granting tax credits equal to 60% of the value of the donation for food donations was passed in 1988. In the United States, a federal tax credit is granted for charitable donations, and a larger credit for food donations.

In 2016, a similar law granting tax credits for food donations was enacted in Italy. The law defines the essence of food waste and what are surplus food; sets the hierarchy for food recovery; clarifies

the types of foods that can be donated (such as incorrectly-labeled food, food products that have been confiscated by public authorities and are safe for human consumption, etc.); clarifies the situation of charitable NPOs that distribute food regularly; and simplifies and amends the regulations regarding food donation.

The Natural Step Israel (TNS)

TNS Israel is a public benefit corporation that works to prevent and reduce food waste in Israel in several ways:

- In 2018, the organization launched the Israeli Convention for Food Waste Reduction, a statement that businesses and public organizations can sign to declare their commitment to reduce food waste.
- TNS provides educational lectures for elementary and junior high school students on the subject of reducing food waste.
- TNS works to promote projects that reduce food waste in organizations with institutionalized food service and encourages retail outlets to reduce the price of food products with short expiration dates.
- TNS promotes awareness of the problem of food waste through the website www.lovefoodnotwaste.co.il
- TNS declared March 12, 2019, as Global Food Waste Day (FWD). The day will be devoted to the problem of food waste and loss, and will be observed in collaboration with public and private peer organizations around the world.
- TNS established the Sustainability Transition Food Waste Lab, a wide-ranging project involving partners in the entire food industry, with the goal of creating multidimensional solutions to reduce food waste.

17. Amendment to Income Tax Ordinance (Credit for Food Rescue) 5778-2017



Discussion of the State Comptroller Committee on food waste in Israel. Photo Credit: Leket Israel Archive



**Obstacles and
Policies to Encourage
Food Rescue**



Although many countries around the globe are working to encourage food rescue, Israel has no set policy on the matter.

Obstacles and Policies to Encourage Food Rescue

A special report of the State Comptroller in 2015 determined that the State of Israel needs to establish an overall policy regarding food rescue. Internationally, the issue is on the agenda, and many countries have instituted substantive measures to reduce food waste at all points along the supply chain, and by consumers at the final stage of the supply chain. The steps taken in Israel to date have proven inadequate. A comprehensive, budgeted inter-ministerial effort is necessary to create real change in the field.

The 2018 National Food Waste and Rescue Report, similar to its predecessors, demonstrates the significant benefit of food rescue, from economic,

social and environmental perspectives.

Economic: This is a clear instance of market failure. At market prices, it is not worthwhile to rescue food. However, when the economic price reflects the alternative value and nutritional benefits, food rescue is very worthwhile.

Social: Rescued food that is donated to populations experiencing food insecurity reduces inequality and increases the food security of Israeli citizens.

Environmental: This effort will save significant energy, water, land and chemical resources, as well as reducing GHG emissions.



Rescued Produce at Leket Israel's Logistics Center, Ra'anana. Photo: Leket Israel

Policy Measures Necessary to Encourage Food Rescue in Israel:

- 1** **The Food Donation Act was enacted into law**

The purpose of the law is to encourage the rescue of surplus food and to protect the entire chain of food donors against legal liability from harm that may be caused by the food they donated, provided that they comply with the provisions of the law.
- 2** **Develop a National Plan for Food Rescue**

The plan should relate to all necessary operational, budgetary, and regulatory conditions and incentives to gradually attain the national food rescue goal. The plan should create a system of incentives and mechanisms to encourage food donations and the establishment of a national food rescue program. Additionally, it will include a governmental information system to encourage consumption reduction and prevent loss in the household consumption sector.
- 3** **Set a National Food Rescue Goal**

Aiming to reduce food waste by 50% by the year 2030, as specified by the UN. Setting a national goal will place the issue on the national agenda and more importantly will create governmental commitment to act towards the realization of this objective. In addition to setting a goal, it is necessary to establish measurement and monitoring tools to facilitate ongoing review of compliance with the goal.
- 4** **Require Food Rescue of all Governmental & Government-Financed Institutions**

It is necessary to expand the process which will be executed by the Government Companies Authority. Requiring state-funded bodies with kitchens catering to 1,000 or more patrons daily (directly or through a subcontractor) to contract with approved food rescue NPOs as a condition for government support (including defense agencies, school catering programs, government companies, etc.).
- 5** **Reevaluating Expiration Dates**

Examining the need to update standards in determining the expiration dates of various food products, all while ensuring public health standards, and preventing food waste. This also includes an examination of the manner in which expiration dates are presented to the public.
*This recommendation was drafted in collaboration with TNS Israel.
- 6** **Require Food Rescue as a Condition for Private Businesses to Participate in Government Tenders**

Requiring private organizations that participate in government tenders supplying services to the State (not necessarily food-related), who have sources of rescuable food, to collaborate with registered food rescue NPOs as a threshold condition for contracting with the State. This would oblige businesses that provide services to the State—meaning they are indirectly funded by taxpayers—to return otherwise wasted food to the public that funded it. This legislation is similar to the section on food-related tenders in the US Federal Food Donation Act of 2008.



Leket Israel The National Food Bank

Founded in 2003 by Mr. Joseph Gitler, Leket Israel is the only organization in Israel dedicated solely to rescuing food for the benefit of people who need it. As the leading food rescue organization in Israel, Leket Israel is the expert in the field, rescuing and redistributing millions of pounds of food to the needy through partner NPOs, "Friends of Leket Israel."

Leket Israel achieves this goal by rescuing food from a variety of different sources: picking fresh produce from the field, collecting leftover agricultural produce from packing houses, and rescuing meals from various suppliers of prepared food.

The rescued food is transported via Leket Israel's complex logistical system. The system is based on a fleet of refrigerated trucks and a fleet of refrigerated vans that bring the food to the sophisticated logistical center, where it is stored under optimal conditions. The logistical system is responsible for efficiently distributing high-quality rescued food from the logistical center to NPOs throughout the country, in strict compliance with food safety guidelines.

In an effort to enhance and support the health and well-being of the underprivileged, Leket Israel places special emphasis on distributing highly nutritious foods including fruits and vegetables, prepared meals, and foods high in protein, calcium and vitamins.

Leket Israel's success is possible because of the extraordinary generosity of approximately 47,000 volunteers a year from all over the country and the world. This is an inspiring network of volunteers who dedicate their free time to devotedly picking, harvesting, collecting, preparing, and distributing food.

Leket Israel constantly strives to realize its vision in which all suitable, nutritious food surpluses are rescued. Therefore, it is seeking new sources of rescuable food and is working to expand its network of partner NPOs, "Friends of Leket Israel," in order to provide food for the disadvantaged population.

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