REPORT 2017

FOOD WASTE AND RESCUE IN ISRAEL

The Economic, Social and Environmental Impact

Leket Israel
The National Food Bank

BDO

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Introduction

Food waste and rescue is at the center of public discourse worldwide. Experts and policy-makers are in broad agreement that food waste causes substantial negative economic, environmental and social impact, and that the most effective means for limiting this impact is to prevent, as much as possible, the creation of excess food and to transfer surplus to populations experiencing food insecurity.

The National Food Waste and Rescue Report for 2017 was produced, for the third consecutive year, by Leket Israel and BDO. The estimates in the report show that 2.3 million tons of food, worth NIS 19.5 billion and constituting approximately 33% of domestic food production, is wasted in Israel annually. Of this amount, approximately 1.1 million tons, worth NIS 7 billion, is rescuable, meaning it is suitable for human consumption.

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

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

The current report includes, for the first time, a detailed model for estimating food waste in the retail and distribution sectors (supermarkets, open markets, neighborhood grocers, and small retailers). The value of food waste from these sectors exceeds NIS 4 billion. The amount of food fit for human consumption that could be rescued in the retail and distribution sectors is valued at approximately NIS 3 billion, representing nearly half of all rescuable food waste in Israel. The main causes of waste in these sectors are premature expiry dates, aesthetic defects, flawed packaging and damaged food.

The problem of food waste is not limited to Israel, with the extent of food waste in Israel similar to that in other developed nations around the world. However, unlike many other countries that have enacted legislation, and developed national, multi-year goals and programs to encourage food rescue and reduce waste, Israel – despite having taken some initial steps – still lacks a comprehensive national policy on this issue.

It is our hope that this report will motivate Israel's decision makers to not only make declarations, but move towards developing a national policy that creates genuine change in the patterns of food rescue in Israel.

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1 Uniqueness of Food Consumption and Production in Israel

465,000 *families in Israel are impacted by food insecurity*

Uniqueness of Food Consumption and Production in Israel

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).

Expenditures for food is one of the highest components of an Israeli household's expenditure basket, accounting for about 16% of an average household's spending and approximately 20% in households in the two lowest deciles.

In addition to the high cost of living in Israel which is among the highest in the developed world, the poverty rate is also excessively high. As a result, food insecurity is a particularly severe problem in Israel. According to a 2016 report issued by the National Insurance Institute, 18.6% of households in Israel (465,000 families) are living in poverty and suffer from food insecurity. From an economic perspective, this means that a household spends approximately 33% less on food than the normative expenditure.

Expenditures for food is one of the highest components of an Israeli household's expenditure basket, accounting for about 16% of an average household's spending and approximately 20% in households in the two lowest deciles. Therefore, ensuring food security and supporting food rescue are matters of especially great economic significance for Israel.

Rescuing food and distributing it to the underprivileged populace contributes positively to society in three principle ways:

Economic
transforming zero or negative value food waste into an economically valuable commodity

Social
reducing social gaps and inequality

Environmental
reducing pollutant levels, greenhouse gas (GHG) emissions, and the use of chemical, land, and water resources.

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 financial costs such as land and water. In a densely populated country like Israel—where land is a scarce, resources expensive (especially in high demand areas) and food and housing insecurity a problem—using 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 GHG emissions in the world are generated during the various stages of food cultivation, production, and distribution.

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 two reports. Furthermore, this year's report includes an expanded section on food waste occurring in the retail and distribution sectors.

Machane Yehuda Market, Jerusalem

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

50%

Global goal for reducing food waste by 2030

Food rescue and distribution to the underprivileged populace increases the gross national product while simultaneously reducing inequality

Food Rescue: Integrating Economic, Environmental, and Social Contributions

Food rescue refers to the economic endeavor of transforming food surplus, currently of zero or negative value, into food of economic value, and distributing it to the underprivileged populace. In November 2008, the European Commission on Waste Management issued a directive on food waste, including a hierarchy for food recovery, that has been accepted around the world.

The hierarchy for food recovery establishes priorities for the handling of surplus food. 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. 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.

The importance of rescuing food stems from three central advantages:

1. **Economic benefit**
   Rescuing food transforms zero or negative value waste to an economically valuable commodity, thus increasing the gross national product and productivity

2. **Social benefit**
   The rescue and provision of surplus food to those in need reduces social gaps and prevents food insecurity in weaker, underprivileged populations

3. **Environmental benefit**
   Waste reduction reduces pollutant levels, GHG emissions, and use of finite land and water resources

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 both 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 populace.

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.

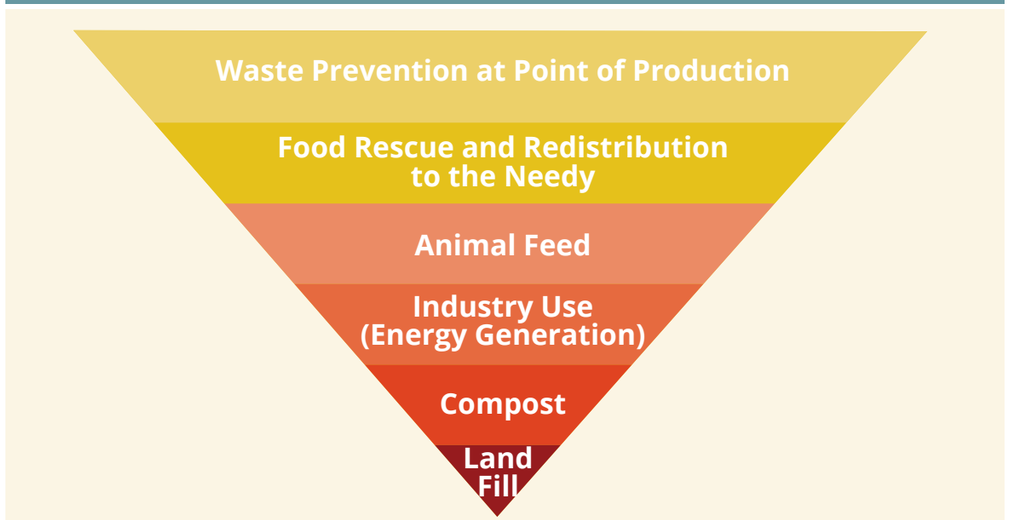
Food waste is not a phenomenon unique to the Israeli economy, and is evident in similar volumes in comparable developed economies. However, unlike many other countries that have developed legislation, national policies and multi-year targets to encourage food rescue and decrease food waste, Israel still lacks a national policy regarding these issues.

Despite this, some initial steps have been taken in recent years, in terms of both regulation and incentives. More than two years ago, legislation was proposed to encourage the rescue of surplus food. Last year legislation granting tax benefits for food donations was also proposed. In 2017, the Ministry of Agriculture launched a pilot project encouraging farmers to distribute surplus produce to people in need, through nonprofit organizations (NPOs).

The Ministry of Agriculture and Leket Israel are cooperating on a joint project aimed at Israel's Bedouin population. The Ministry of Welfare's food security program has been launched and for the first time, surplus agricultural produce is being included in food baskets distributed to underprivileged populations.

Even with these initiatives, three years after a State Comptroller's Report warned about the lack of a clear government policy on the issue, there is still no national program for food rescue. [Additional details on the new government initiatives may be found in Chapter 10.]

The Economic-Environmental Hierarchy of Food Recovery



Source: EPA

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

2.3 *million tons of food was wasted in Israel in 2017*

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 production [1]. Estimated at approximately 2.3 million tons in 2017, food waste in Israel constitutes 33% of overall domestic food production. Israeli agriculture recorded a 3.6% increase in production over the previous year which experienced a 4% decline in production due to inclement weather.

Findings of the 2017 National Food Waste and Rescue Report indicate a decrease in food waste, compared to the findings in the previous report. This was the result of the 3.6% increase in Israeli agricultural production, which was also offset by a decrease in the estimated rate of loss.

In monetary terms, some 20% of the value of food waste, worth approximately NIS 3.8 billion, occurs during the various stages of production, representing approximately 13% of the value of agricultural production in Israel. Nearly 80% of the waste, worth approximately NIS 15.5 billion, occurs during distribution and consumption.

Monthly Value (NIS) of Food Waste per Household in Israel

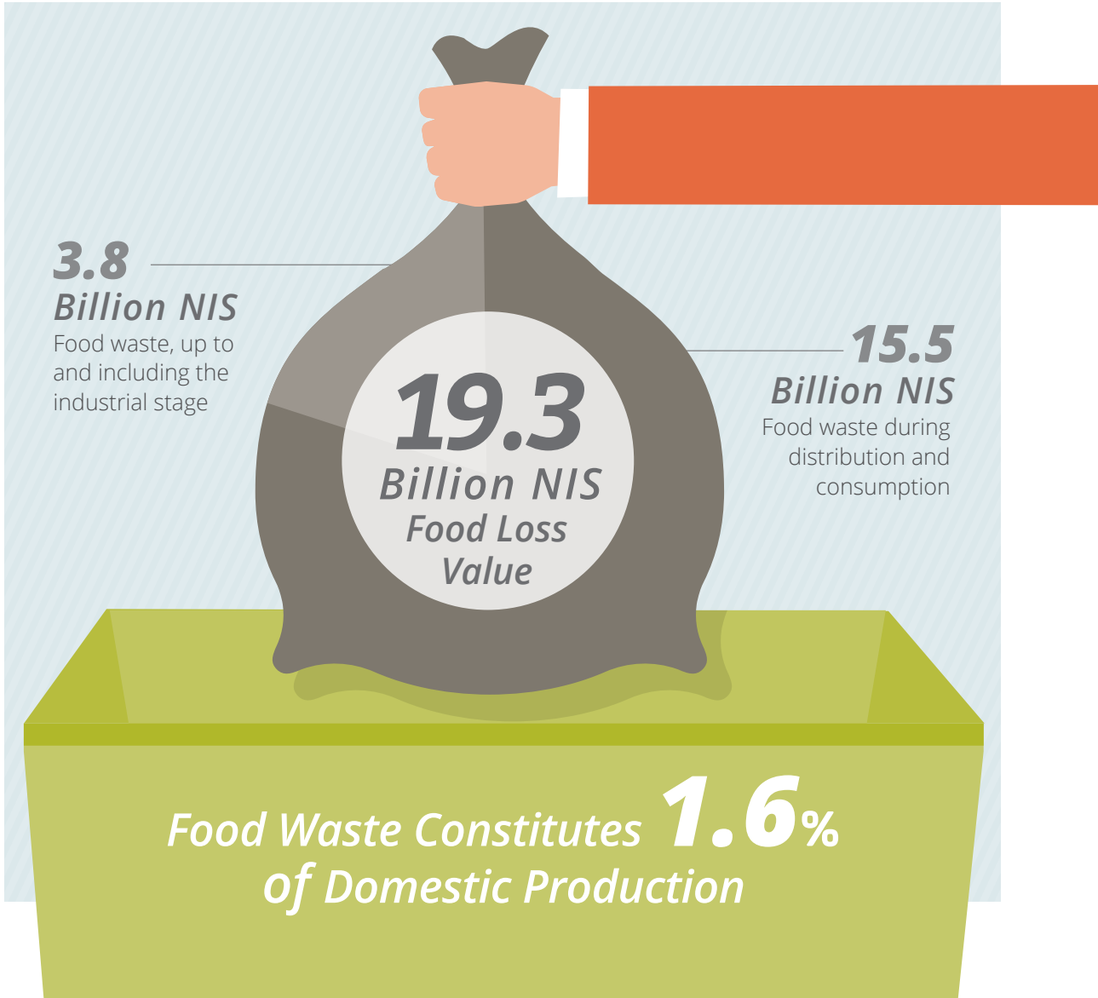
Household Loss (monthly NIS)	Growing Stage	Packaging	Industry	Retail & Distribution	Consumption	Total
Fruit & Vegetables	68	23	2	69	131	**293**
Grains & Legumes	2	1	1	21	131	**156**
Meat, Fish & Eggs	10	2	13	47	102	**174**
Milk & Dairy	3	1	1	5	17	**27**
Total	***83***	***27***	***17***	***142***	***381***	***650***

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

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 food [2]. 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 Center [3]. 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 because there is no 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



Food Value Chain in Israel (1,000 tons) and Percentage of Food Waste at All Stages

Loss percentage figures were rounded for presentation purposes

	Fruit & Vegetables	Grains & Legumes	Meat, Fish & Eggs	Milk & Dairy	Total	
Agriculture	4,342 thousand tons; 13% (565,000 ton) loss	486 thousand tons; 5% (24,000 ton) loss	723 thousand tons; 4% (31,000 ton) loss	1,598 thousand tons; 4% (56,000 ton) loss	7,149 thousand tons; 9% (676,000 ton) loss	3.8 Billion NIS; 20% Loss
Processing & Packaging	3,776 thousand tons; 8% (197,000 ton) loss	462 thousand tons; 4% (17,000 ton) loss	692 thousand tons; 1% (5,000 ton) loss	1,542 thousand tons; 1% (8,000 ton) loss	6,472 thousand tons; 3% (226,000 ton) loss	
Industry	574 thousand tons; 4% (20,000 ton) loss	442 thousand tons; 2% (9,000 ton) loss	571 thousand tons; 5% (29,000 ton) loss	1,499 thousand tons; 1% (18,000 ton) loss	3,085 thousand tons; 2% (76,000 ton) loss	
Net Import (non-food uses deducted)	197- thousand tons	974+ thousand tons	109+ thousand tons	128+ thousand tons	1,015+ thousand tons	
Distribution	3,362 thousand tons; 9% (306,000 ton) loss	1,410 thousand tons; 3% (42,000 ton) loss	768 thousand tons; 5% (37,000 ton) loss	1,645 thousand tons; 2% (27,000 ton) loss	7,185 thousand tons; 6% (413,000 ton) loss	15.5 Billion NIS; 80% Loss
Consumption	3,056 thousand tons; 18% (544,000 ton) loss	1,368 thousand tons; 18% (243,000 ton) loss	731 thousand tons; 10% (76,000 ton) loss	1,617 thousand tons; 5% (85,000 ton) loss	6,772 thousand tons; 14% (948,000 ton) 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, including conversations and interviews with experts in the field, study findings and results from previous reviews, international comparative studies and more.

The 2017 National Food Waste and Rescue Report includes improvements in the statistical analysis and methodology that were made possible, among other things, through the cooperation of the Ministry of Agriculture and the Israeli Central Bureau of Statistics.

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 ton 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.

The economic value of food waste in Israel is estimated at approximately NIS 19.5 billion, constituting 1.6% of domestic production.

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 Loss Estimate in Israel 2015 *Thousands of Tons*

	Growing Stage	Processing & Packaging	Industry	Distribution	Consumption	Total
Fruit & Vegetables	565	197	20	306	544	1,632
Grains & Legumes	24	17	9	42	243	335
Meat, Fish & Eggs	31	5	29	37	76	178
Milk & Dairy	56	8	18	28	85	195
Total	***676***	***227***	***76***	***413***	***948***	***2,340***

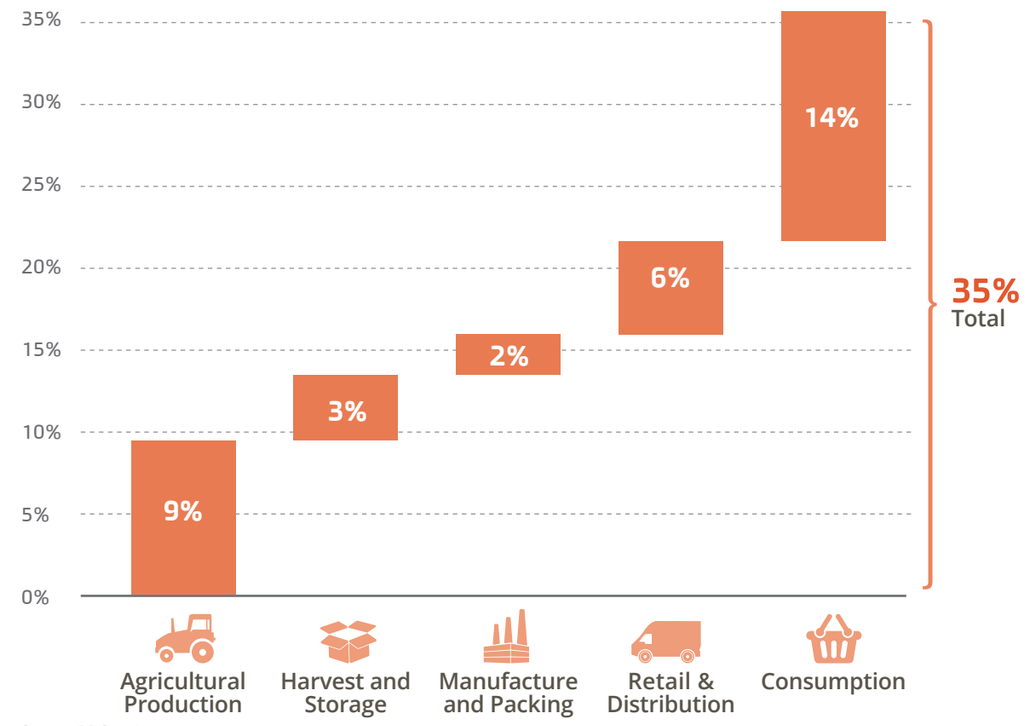
Source: BDO estimates

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.

The economic value of food waste in Israel is estimated at approximately NIS 19.5 billion, constituting 1.6% of domestic production.

Total food waste in all value chain stages translates to a loss of approximately NIS 650 per month per household in Israel, equivalent to wasting approximately 80 kg of food per month per household. Quantitatively speaking, approximately 60% 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.

Estimated Percentage of Food Waste in Israel, by sector



Source: BDO estimates

4 Food Rescue = Alternative to Food Production

1.1 *million tons of food can be rescued*

Food Rescue = Alternative to Food Production

During the growth, production, distribution and marketing of food in Israel, approximately 33% 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 for the consumption of underprivileged populations.

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

Economically speaking, food rescue should be viewed as a viable alternative to excess food production

Currently, the majority of food rescue in Israel and abroad is carried out by 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 dollars. Moreover, food rescue generates additional environmental, social and health benefits.

Based on Leket Israel's experience, the cost of food rescue is approximately NIS 1.4 for every kilogram of food. The direct value of the food is NIS 5.1 per kilogram, yielding a multiplier effect of 3.6. Therefore, each NIS 1.0 invested by NPOs in food rescue provides NIS 3.6 worth of food for the underprivileged populace. 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, to be conservative in our estimates, 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 NIS 1.0 invested in food rescue generates NIS 7.2 to the national economy.

Food Rescue Feasibility Assessment *Food Cost / Benefit NIS per kg*

	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	5.1	Excluded	5.1	1.4	3.7	3.6
Benefit to National Economy – Including External Factors	5.1	5	10.1	1.4	8.7	7.2

Source: BDO estimates

* Market price of alternative product with similar nutritional value.

5 *Food Waste and Rescue in the Retail and Distribution Sectors*

4.2 Bilion NIS
worth of food waste exists in the retail and distribution sectors

Food Waste and Rescue in the Retail and Distribution Sectors

The volume of food sales in Israel is about NIS 77 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 sectors[4] is about 400,000 tons of food, valued at approximately NIS 4.2 billion, which constitutes about 6% of the retail sales of food. Of this amount, the value of the rescuable food is approximately NIS 3 billion.

The main causes of food waste in the retail and distribution sectors 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 sectors is inevitable, even with optimal planning of the distribution and marketing systems. The reason is that 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 is far higher than the cost of offering surpluses. In other words, excess food is an inherent part of the retail sale process.

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 in 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 sectors 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 sectors 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.

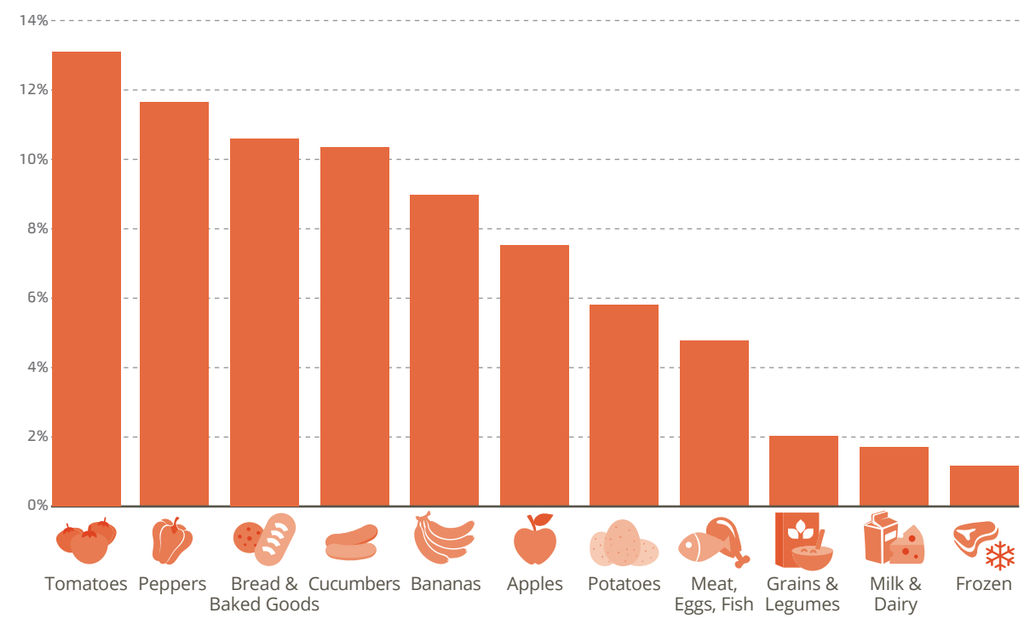
4. For purposes of analyzing food waste, this report relates to "Retail and Distribution" as a single sector that includes losses incurred from the end of the production stage to the sale to the consumer: any loss of finished products that are ready for marketing by the manufacturers, wholesale loss,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

50%
About half of the rescuable food, by value, exists in the retail and distribution sectors

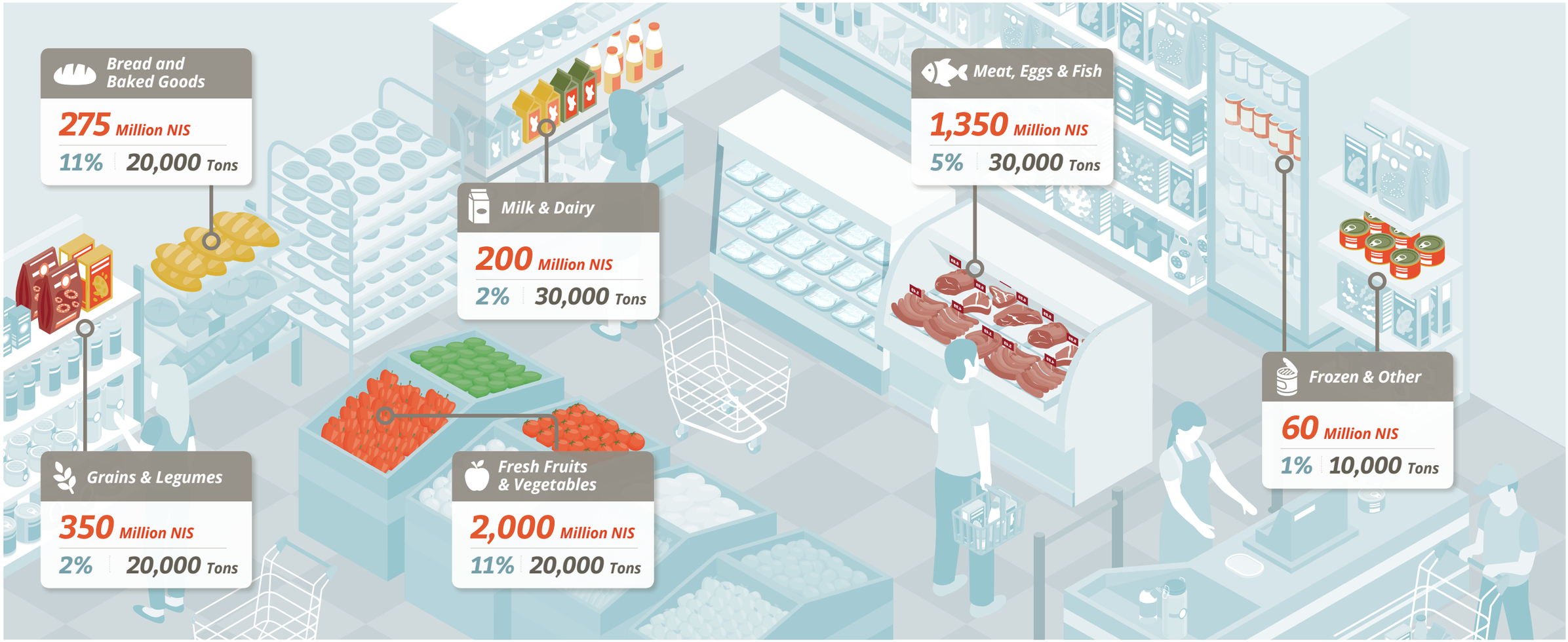
Food marketers' investment in establishing advanced logistical centers, online inventory and demand management systems, and keeping an unbroken cold chain have contributed to reducing the volume of loss in the retail and distribution sectors.

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 retails 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 Sectors
for Selected Food Items



Financial Loss in the Retail and Distribution Sectors



Primary Causes of Waste

- EXPIRY DATE
- AESTHETIC DEFECTS
- DAMAGED FOOD

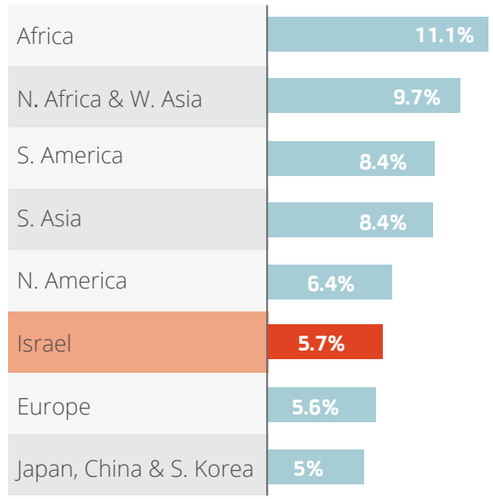
Value of Loss 4,200M NIS

* 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.

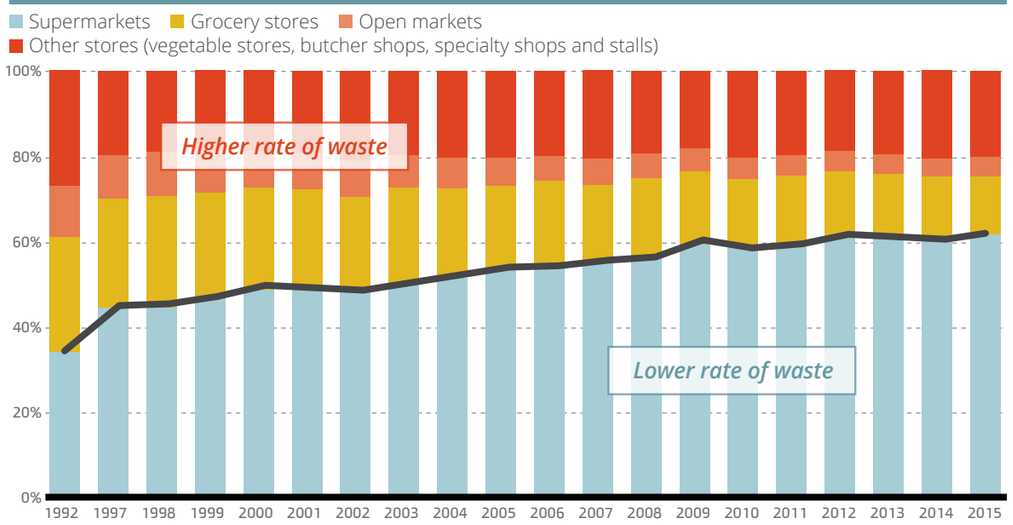
Waste in the retail and distribution sectors has the highest economic value because it includes the entire previous investment in growth, manufacturing, packaging and transportation. It is food that is ready for marketing and consumption that is lost before reaching the end consumer. In addition, due to the characteristics of waste at this stage, the vast majority of this food is rescuable, whose loss can be prevented. As a result, these sectors constitute about 50% of the potential for rescue in monetary value, about NIS 3 billion, out of total potential for rescue worth NIS 7 billion to the economy.

***International Comparison** Rate of Waste in the Retail and Distribution Ssectors*



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

Consumers Transition to Purchasing in Stores with Lower Percentages of Waste



Source: CBS

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

1 Short expiry dates

Food products by nature have limited shelf lives and, therefore, it is inevitable that some products will reach their expiration date before being sold. Therefore, rescuing food in the retail and distribution sectors requires creating incentives that will facilitate inventory management to ensure that short-dated food is distributed to the needy before it reaches its expiry 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 expiry 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.

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 effort is being made to reduce damage and waste.

Rescue operations in the retail and distribution sectors

Retailers 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 expiry dates or are damaged, retailers sometimes offer them at a reduced price. Economically, the transfer of these products to the needy 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 expiry 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 still safe and fit for human consumption.

6 Food Waste and Rescue in Institutional Consumption

70 ***Tons of food*** ***could be saved each year, worth NIS 1.2 billion***

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 at factories, workplaces, security forces (Israel Defense Forces [IDF] bases, police stations, prisons), hotels, catering halls, restaurants, schools, hospitals, etc [5].

According to BDO estimates, on an average day in 2017 approximately 1.9 million people ate one meal outside of the home, equivalent to 650 million meals annually. Approximately 750,000 tons 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 NIS 13 billion annually, equivalent to approximately 17% of the total expenditure for food in Israel, and approximately 11% of the food consumed in quantitative terms.

The total food wasted in the institutional sector amounts to 220,000 tons annually, representing 30% of institutional food consumption, at a cost of approximately NIS 3.5 billion annually.

Approximately one-third of institutional meals wasted are rescuable, meaning that it would be possible to save approximately 70,000 tons of food annually, with a total value of approximately NIS 1.2 billion each year, equivalent to approximately 66 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.

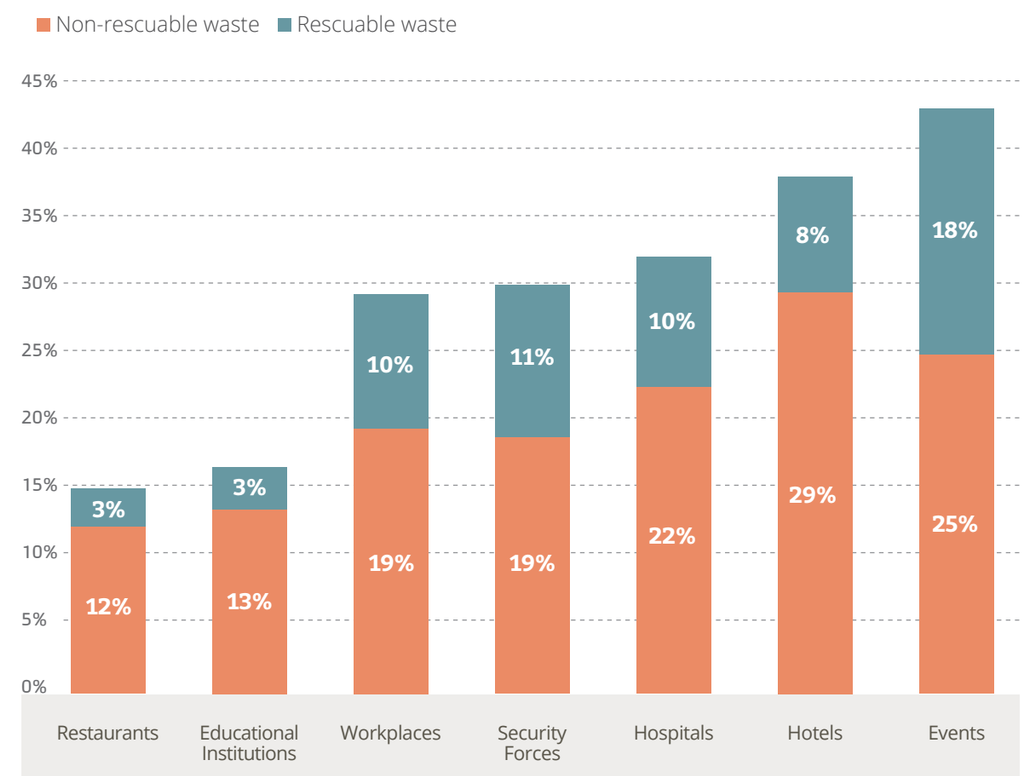
In situations where the consumer pays only for what is eaten, the amount of waste will be lower than it is in restaurants that charge an all-inclusive price.

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.

5. In the model, each of these branches is weighted according to the characteristics of the meal it serves.

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 (e.g., soldiers and employees are able to eat offsite), 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



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 below presents a summary, in quantitative terms, of the estimated food waste in the institutional sector.

The total amount of food that can be rescued from the institutional sector is valued at approximately NIS 1.2 billion. Approximately half of this amount is from events, from which it is likely possible to rescue approximately 20,000 tons of food, with a monetary value of NIS 0.5 billion, annually. Hotels, IDF bases and workplaces are other important focal points for food rescue, and it is probable that food worth NIS 120-180 million can be rescued annually from each of these sources. The value of rescuable food from restaurants is similar; approximately NIS 115 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.

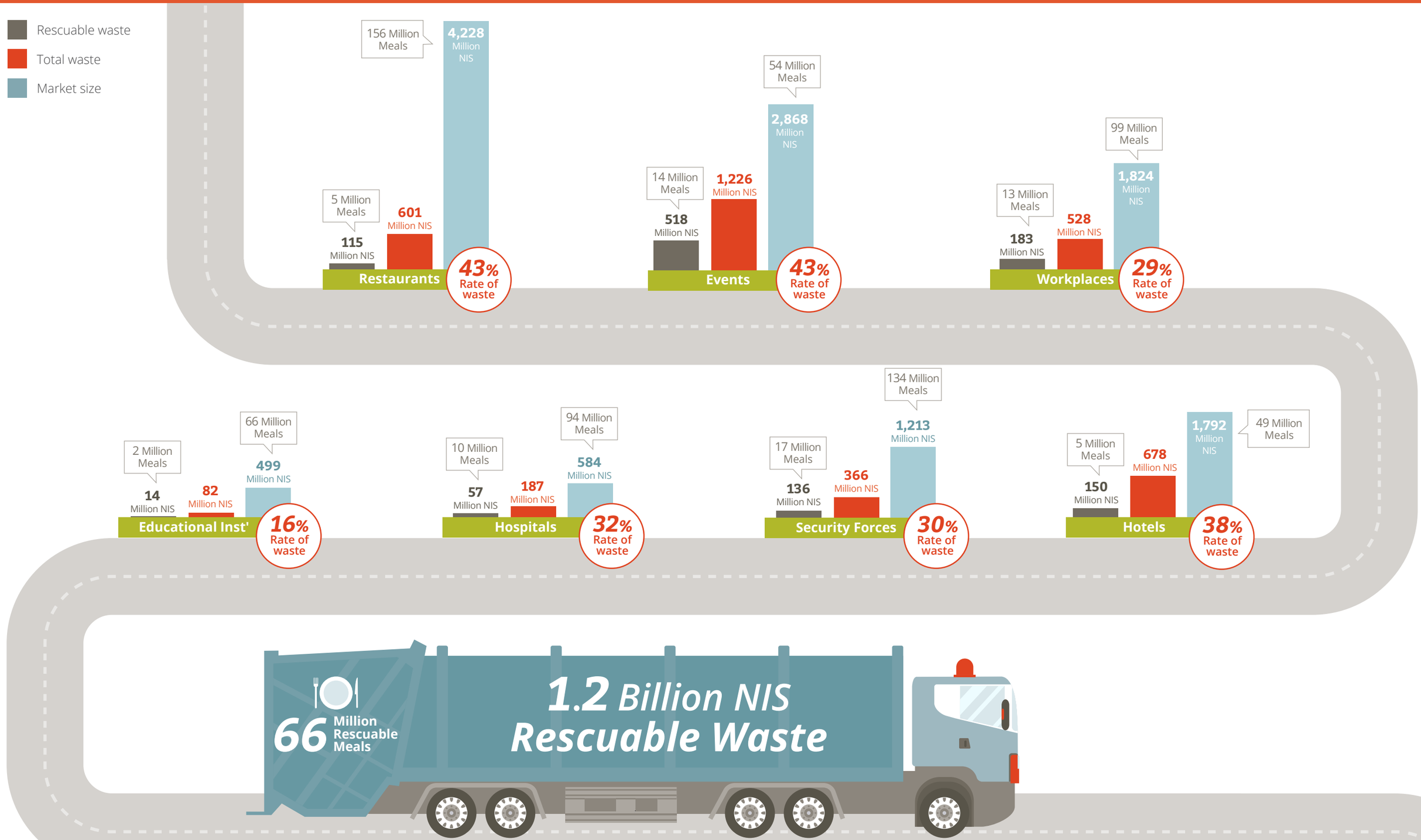
The high return on investment for food rescue in the institutional sector is a consequence of the relatively high value of the rescued product, combined with the relatively low logistical costs of collecting food from large kitchens with dense geographic distribution, concentrated in city centers and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

Estimated Food Waste in Institutional Consumption

	Events	Hotels	Hospitals		Security Forces	Workplaces	Educational Institutions	Restaurants	Total
Relevant population [6] Per 1,000 people	141	91	190		249	410	368	427	***1,886***
Meals served (yearly) Per million meals	54	49	94		134	99	66	156	***652***
Food consumed (yearly) Per 1,000 tons	113	85	75		153	173	33	117	***749***
Annual waste [6] Per 1,000 tons	**49**	**32**	**24**		**46**	**50**	**5**	**17**	***223***
Rate of waste (%)	43%	38%	32%		30%	29%	16%	14%	***30%***
Rescuable waste Per 1,000 tons	20	7	7		17	17	1	3	***72***

6. 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*



7 Food Rescue: Feasibility to the National Economy

4.5 Bilion NIS
potential profit for the national economy from food rescue

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

Food Rescue: Feasibility to the National Economy

The rescue of 470,000 tons 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 shekel (NIS 1.0) spent on food rescue saves food worth NIS 3.6. According to the conservative assumption that this ratio would be maintained even when the scope of food rescue is expanded, the cost of rescuing NIS 3 billion worth of food would be NIS 830 million.

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

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.

Without food rescue, it would require an annual cost of NIS 3 billion 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 support for the needy. Food rescue allows for reaching the same social goal at a significantly lower cost, approximately NIS 830 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
NIS in Millions Annually

Percentage of Rescued Food from Food Waste	1%[7] (currently)	5%[8]	10%	20%
Recovered Food (in 1,000 tons)	28	120	230	470
Food Rescued Share of Food Insecurity Gap	6%	25%	50%	100%
Value of Rescued Food	140	760	1,460	3,000
Cost of Food Rescue	30	210	400	830
Benefit to National Economy (before external factors)	110	550	1,060	2,170
Environmental-Social Contribution (FAO)	140	600	1,150	2,350
Total Value of Food Rescue to National Economy	250	1,150	2,210	4,520

Source: BDO estimates 7. Calculated based on the actual food rescued 8. Calculated based on the average value of rescuable food in Israel

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 shekel invested in food rescue generates a direct economic value 3.6 higher than the cost). Moreover, taking into consideration the Food and Agriculture Organization's (FAO) estimates of external environmental and social impact, the benefit to the economy increases to 7.2 times that of the cost.

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 shekel invested in food rescue generates a direct economic value 3.6 higher than the cost).

In this context, it should be noted that those suffering from food insecurity also suffer from financial 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 choose to allocate some 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.

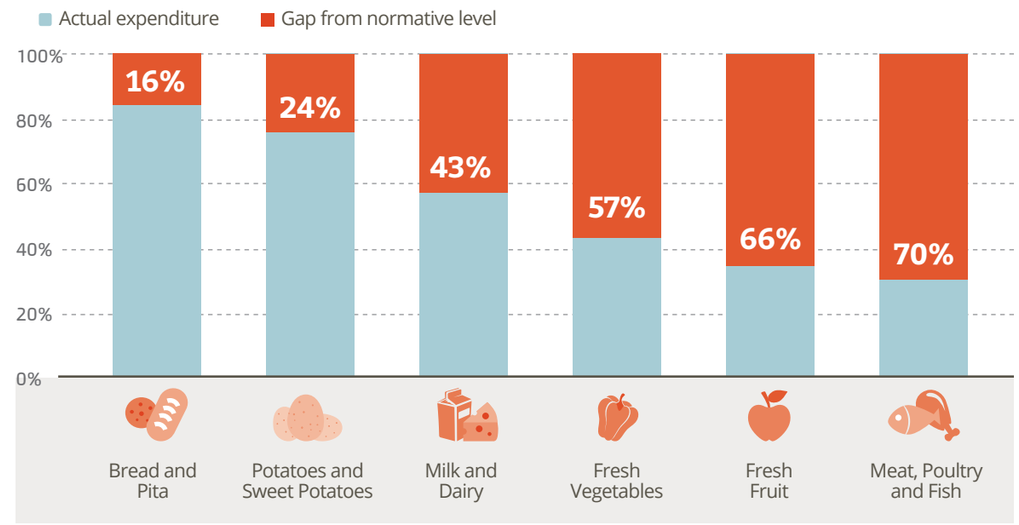
For the national economy, such efforts would generate a value of NIS 2 billion annually, bridging the gap between the value of rescued food and food rescue costs.

In September 2015, the US government established a national food waste reduction goal of 50% within 15 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 460,000 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 value of NIS 2 billion 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 were the external environmental benefits to be factored as well.

It should be emphasized that the incremental realization of a 50% national food waste reduction goal, over a 15-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.

Impact of Food Insecurity on the Food Expenditure Patterns of Households Experiencing Severe Food Insecurity

100% = Diet of population with normative food expenditures



Source: BDO analysis and Survey of Household Expenses, CBS

Prepared Food Collection. Photo Credit: Hadas Shaul

8 Food Waste: How Much Food Can Be Rescued?

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

Food Waste: How Much Food Can Be Rescued?

Approximately 33% of food produced in Israel is lost or wasted during the production, distribution and consumption stages, totaling approximately 2.3 million tons annually. This translates to food waste valued at NIS 19.5 billion, equivalent to 1.6% of the GNP. About half of this waste is considered unfit for human consumption and is therefore not considered potentially rescuable.

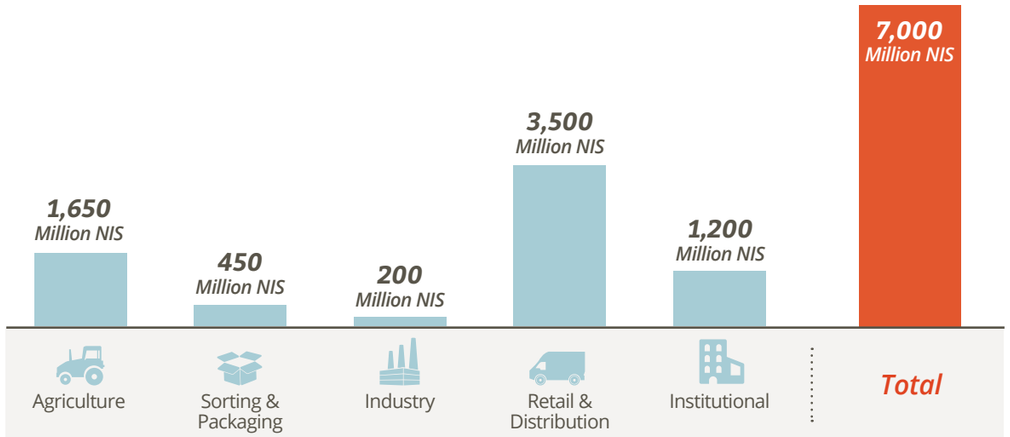
In terms of food rescue, the most important component is edible foods (fit for consumption with nutritional and health benefits) that do not reach the consumer. There are various reasons for loss in each of the stages of the food value chain. The common denominator is lack of economic viability for food 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. 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.

The value of rescuable food is approximately NIS 7 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. As can be seen in the table on page 51, most of the value of food waste is concentrated in the retail and distribution sectors, because the food lost during these stages is ready for marketing and consumption, and is being discarded before reaching the final consumer.

Value of Rescuable Food in the Food Chain



Rounded for ease of presentation. Source: BDO

Volunteers Harvesting Crops at Leket Israel's Moshav Nahalal Fields. Photo Credit: Leket Israel

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 such 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.

The value of rescuable food is approximately NIS 7 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. As can be seen on the table in page 51, most of the value of food waste is concentrated in the retail and distribution sectors, because the food lost during these stages is ready for marketing and consumption, and is being discarded before reaching the final consumer.

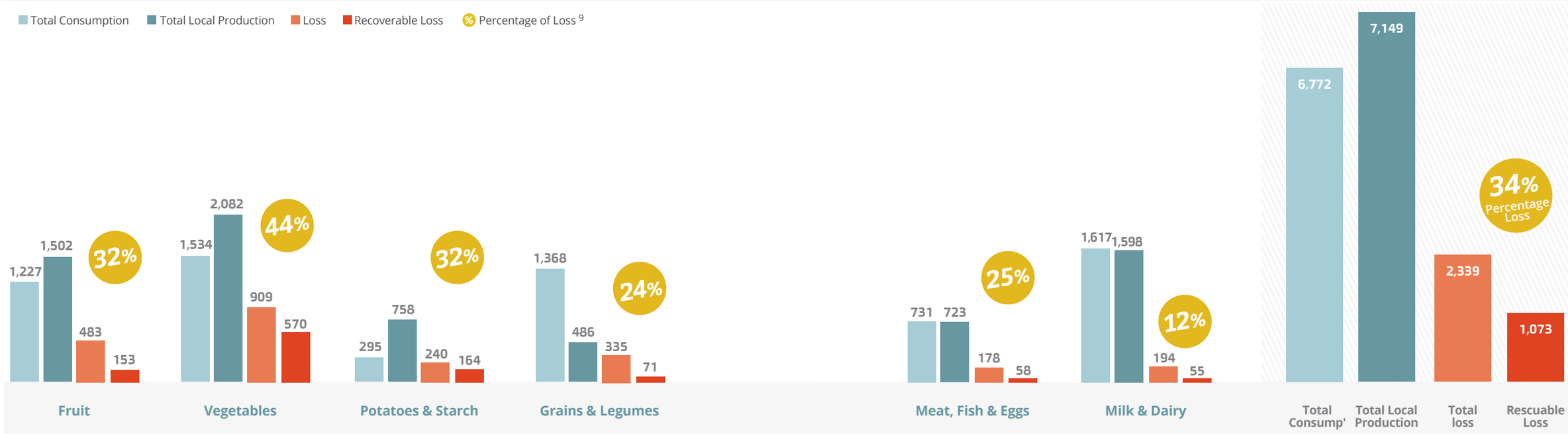
Rescuable Food

- Unpicked 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 flawed or damaged packaging
- Food nearing its sell-by date that will not be sold

Food Waste Unfit for Human Consumption

- Sick livestock or carcasses
- Diseased food
- Food damaged by natural causes (beyond aesthetic defects)
- Spoiled food
- Production leftovers (peels, seeds, skin, fat)
- Food already served and left unconsumed

Estimate Amounts of Rescuable Food in Israel *thousands of tons*



9. Loss of grains and legumes are presented in consumption because the majority of grain consumption is from imports.

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

16% *Food accounts for approximately 16% of private consumption in Israel, among the highest ratio in the OECD*

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)	0.36	0.32	5
Poverty Rate	19.5%	12%	1
Food Security Index	79	78	18
(%) Food Expenditure to PCE[13]	16%	14%	9

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

According 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 deteriorated in comparison to last year. Israel remains the OECD country with the highest poverty rate, with a significant gap of approximately 2% between it and the next country on the list, Turkey. Conversely, the National Insurance Institute Poverty Report contends that poverty among Israeli families decreased from 19.1% in 2015 to 18.6% in 2016. This gap is apparently the result of using a different scales for weighing and presenting the benefit of household size.

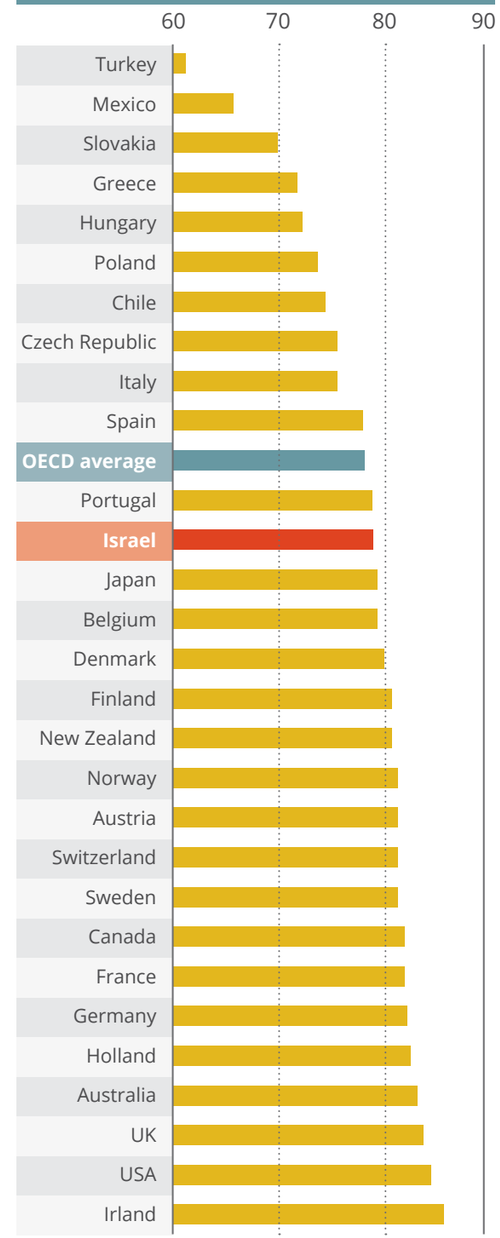
OECD data shows an improvement in the Gini Index of Inequality last year, even though Israel continues to suffer from a high level of inequality. Israel and the United Kingdom (UK) were tied in fifth place for inequality, after Mexico, Chile, Turkey, and the US. Inequality in distribution of income is 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 for comparison, Israel dropped one place because Portugal was able to improve its score while Israel's remained almost unchanged. For food consumption as a share of expenditures, Israel moved up one rank, because of an increase in food's share of consumption in Chile.

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

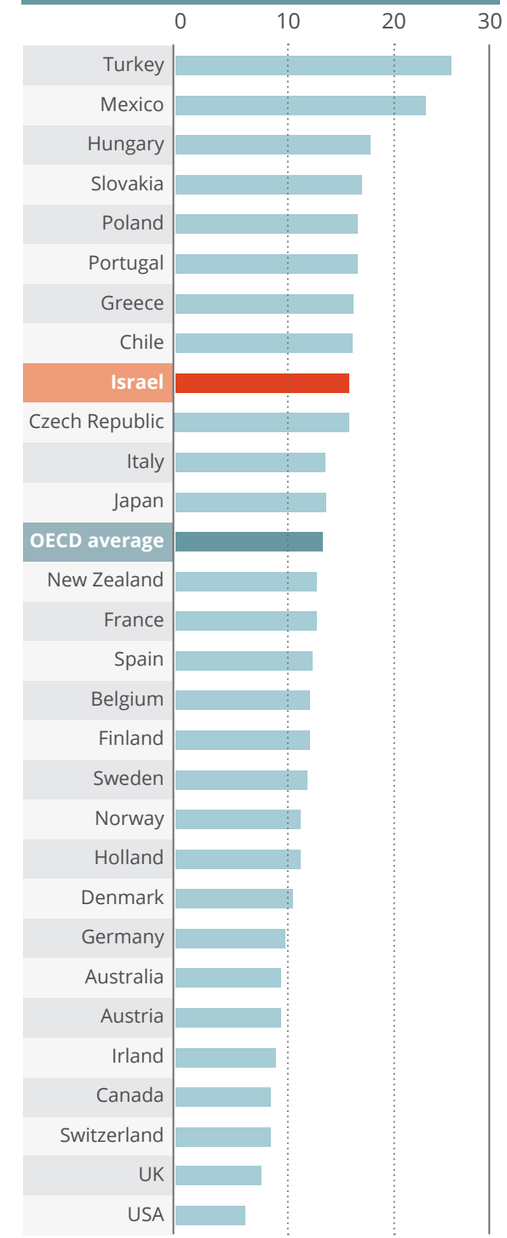
1. **Food Availability:** Sufficient quantities of food available on a consistent basis
2. **Food Access:** Sufficient resources to obtain appropriate foods for a nutritious diet
3. **Food Use:** Awareness to proper use of food as well as adequate water and sanitation

Food Security Index - International Comparison 2017



Source: Economist 2017 Global Food Security Index

Percent (%) Food Expenditure Out of Total Household Expenditure 2017



Using these criteria, which are primarily subjective, the NII estimates that approximately 18% of Israel's population suffers from food insecurity; of this number, 10% are in severe food insecurity, and an additional 8% in moderate or mild food insecurity.

According to The Economist 2017 Global Food Security Index, Israel is ranked 18th in food insecurity among member states of the OECD. Among OECD countries, Israel is ranked 9th in household expenditure on food.

Comparison of inequality and food insecurity data indicates 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 among other things by the American reliance on food stamp programs (SNAP) to ensure adequate food provision to 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. As early as 1996, the US passed the Bill Emerson Good Samaritan Food Donation Act to protect those involved in food rescue from litigation.

Despite similar inequality and poverty rates in Israel and the US, food expenses out of total household expenditure in Israel is among the highest in the world, measured at 16%, 2.5 times the rate in the US. Therefore, a policy of food rescue and distribution to the underprivileged populace would be an especially effective welfare policy in Israel, where a significant portion of household expenditure is allocated to food.

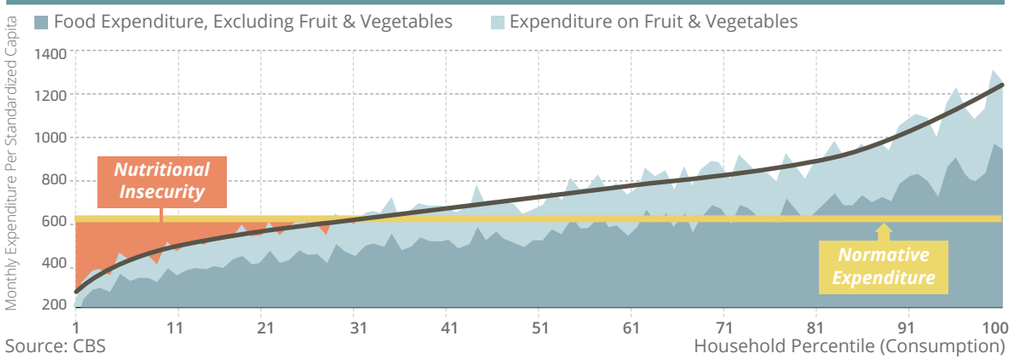
The definition of food security is subjective. In order to examine food rescue effectiveness as a policy measure to increase food security in Israel, the report used the methodology of Chernichovsky and Regev [10] which defines normative food expenditure as a measure of a household's expenditure basket that remains constant even with an increase in household income.

To examine normative food expenditure [11], we compared 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 standard per capita consumption), 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 food insecure population and the normative consumption level (average levels of second-to-fifth percentiles), is valued at approximately

10. Patterns of Expenditure on Food in Israel, Taub Center, 2014. 11. Excluding "dining out", alcoholic beverages and carbonated beverages.

Per Capita Food Expenditure in Israel to Normative Expenditure
percentile distribution

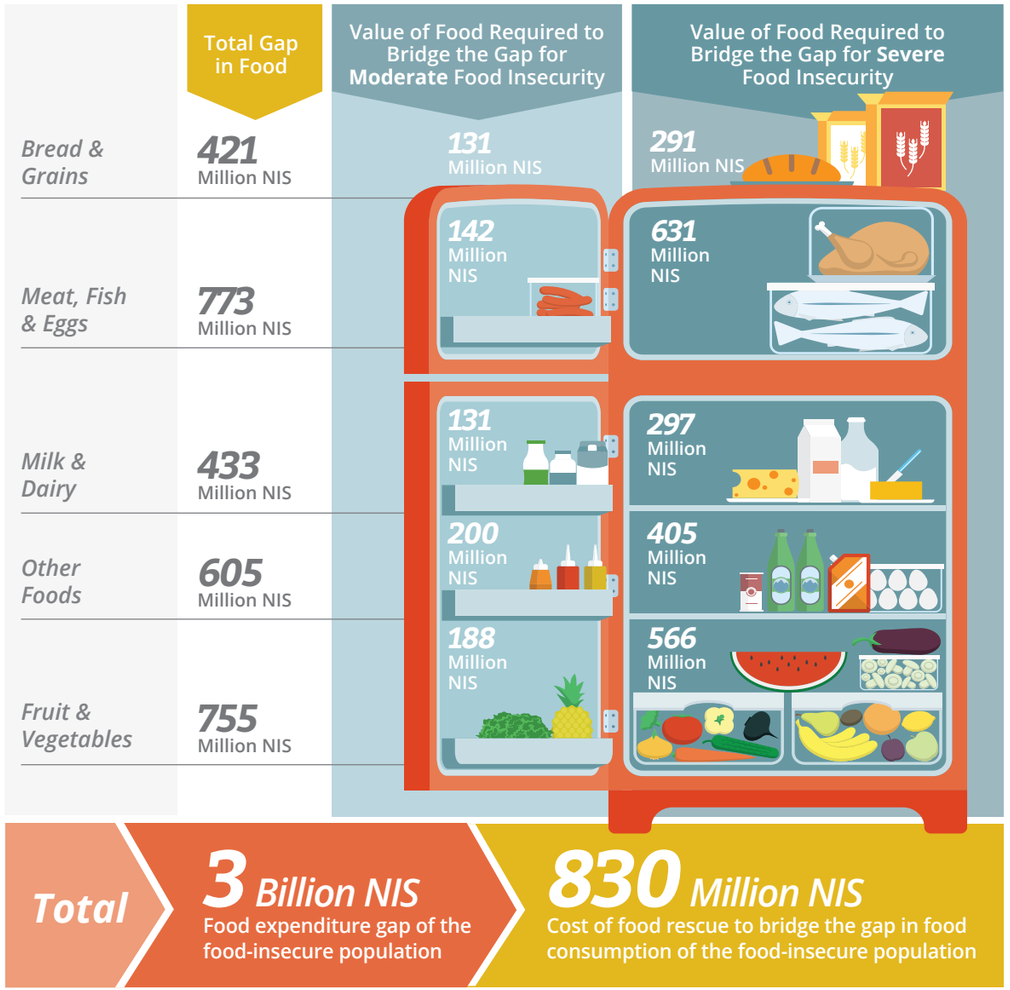


Source: CBS

NIS 3 billion. The cost of eliminating this food expenditure gap relative to normative levels for the severely nutrition-deprived population (10% of Israeli households) is estimated at NIS 2.2 billion, with an additional NIS 0.8 billion required to assist populations experiencing moderate nutritional insecurity.

The rescue of 470,000 tons of wasted food each year, constituting 20% of overall food waste in Israel, would enable the closing of the food gap in Israel. Accordingly, an estimated NIS 830 million would enable the rescue of food worth NIS 3 billion, equivalent to the entire gap between the food expenditure of food insecure populations and normative expenditure levels.

Food Expenditure Gap Relative to Normative Consumption Expenditure for Nutritionally Insecure Populations *in millions NIS*



Source: BDO estimates

10 Developments in Food Rescue, Globally and in Israel

50% *reduction in food waste by 2030 - Goal set by the European Parliament*

Developments in Food Rescue, Globally and in Israel

During 2017, the United Nations (UN) and many countries around the world took steps towards reducing food waste, due to a growing awareness that food waste is an international problem. A consortium of leading international organizations, including the UN, announced the first-ever international standard for measuring food waste.

The UN and its Food and Agriculture Organization (FAO) are working towards implementing 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.

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.

Australia: In 2017, the Australian government defined a target of reducing the amount of food waste produced 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. Already in 2015, it announced a 25% percent reduction in food waste in five years. In June 2016, the government launched a subsidy program totaling $750,000 for projects that reduce food waste across the supply chain.

Norway: The Norwegian government has also announced a target of reducing food waste by 50% by 2030. In June, it signed an agreement with the food industry to achieve this goal.

France: Since January 1, 2016, catering services and restaurants that serve more than 150 customers per day are required to recycle food if it totals more than 10 tons annually. Catering services and restaurants that do not comply are liable to a fine of €75,000.

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 a selling area exceeding 400 m² to contribute any excess 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 €16 billion annually.

Italy has begun the legislative process for a measure similar to the French law prohibiting supermarkets from discarding food and requiring them to work with food rescue organizations. The main difference between the proposed Italian legislation and the French law is that France fines violators, while the Italian law offers incentives, in the form of tax breaks, for those who rescue food.

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 coming 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 accompanied by a campaign entitled, "Love Food – Hate Waste". According to FSA, the campaign will save approximately £20 billion during the coming decade.

Tesco – The British retail giant is a leader in food recovery and is working hard to reduce food waste in its stores, and throughout the value chain. At the end of 2017, Tesco announced that by March 2018 its branches would no longer discard food fit for human consumption in the UK.

USA: In 2016, increasing awareness of the issue of food waste was also observed across the US. In September 2015, the federal government declared a national goal of cutting the amount of food waste by 50% by 2030, with large food manufacturers including Unilever, Kellogg's and Nestlé expressing support for the program. These large manufacturers announced a series of measures to reduce food waste, and the adoption of technologies for measuring and reducing waste. Kellogg's set a target of reducing the amount of food sent to landfill to zero by 2020. Furthermore, the manufacturers declared that they would support campaigns to increase awareness and educate about the issue of food waste prevention.

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.

Tesco Retail Chain Store

Israel

In recent years, awareness of the importance of food rescue has increased, and has been accompanied by initial steps to encourage food rescue, both public activity and governmental measures. This is evident in several initiatives taken by leading organizations and agencies in the last year.

Leket Israel

Leket Israel is the largest organization rescuing food surplus in Israel. Every year, it rescues thousands of tons of food and millions of surplus meals, for the benefit of hundreds of thousands of needy people throughout the country. For this purpose, Leket Israel sponsors and organizes a wide range of activities to rescue food from varied sources: picking fresh produce from farm fields, collecting agricultural surplus produce from packing houses, rescuing cooked food from various sources, and collecting surplus food from the food industry.

Leket Israel's cooked food collection program is unlike any other in the world. In 2017, Leket Israel rescued cooked food equivalent to 2.3 million meals. The total amount of food rescued by Leket Israel in recent years has approached 17,500 tons of food annually, valued at NIS 150 million (unaudited).

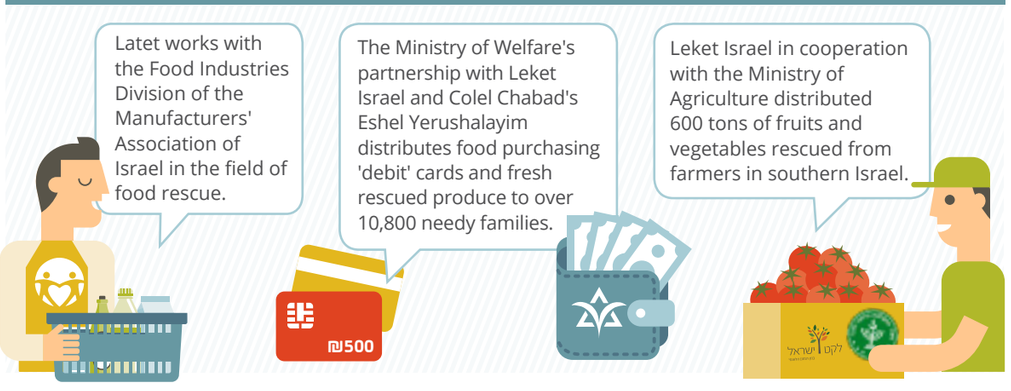
In 2017, several government ministries undertook new initiatives utilizing rescued food: the Food Security Initiative of the Ministry of Welfare, and a joint initiative with the Ministry of Agriculture for the benefit of the Bedouin population in the Negev. Leket Israel is involved and participating in these projects, which supply rescued agricultural produce to needy populations. (For additional details, see below.)

Initiatives of the Ministry of Agriculture

In 2017, the Ministry of Agriculture initiated a pilot project compensating farmers who donate surplus agricultural produce to NPOs serving the needy. According to the plan, a procedure was formulated to allocate a budget of up to NIS 1 million to compensate farmers at the rate of NIS 0.40 per kilogram to cover the cost of harvesting (only) surplus produce that is then transferred to approved NPOs serving vulnerable populations.

During 2017, the Ministry of Agriculture and Leket Israel implemented a joint project in the Bedouin sector, in which 600 tons of fresh fruits and vegetables grown by farmers in the south were rescued and distributed to people experiencing food insecurity, via eight food distribution centers where members of the Bedouin community and recipients of the food also volunteered. A certified nutritionist also gave workshops on proper nutrition to the Bedouin community. Due to the success of the project, and the satisfaction expressed by the families receiving aid, the project will continue to operate in a similar format in 2018.

Key government ministry collaborations



In addition, the Ministry of Agriculture has worked in several other ways to reduce food waste:

- Procedures for encouraging the marketing of "blemished vegetables and fruit" were published for public comment
- Consumers were presented more accessible information regarding the long-term storage of vegetables and fruits
- Cooperation between the Ministry of Agriculture and the Ministry of Education to prevent food waste
- Guidelines for long-term storage of fruit and vegetables for wholesalers and retailers
- The Ministry of Agriculture, in cooperation with the Ministry of Health and the Prime Minister's Office, led a move to extend the maximum shelf life of vacuum-packed chilled meats

Legislating Tax Benefits for Donating Surplus Food

Members of Knesset Merav Ben-Ari, Roy Folkman and Ayelet Nahmias-Verbin are currently proposing 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 with food, and growers of agricultural produce and animal feed, to donate food, including surplus food, to NPOs that distribute food for free to the population 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 nature of food waste and 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.

Ministry of Welfare

The National Food Security Initiative: a project operated in cooperation with Leket Israel and Eshel Jerusalem-Chabad, distributes reloadable cards worth NIS 500 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, with the cards totaling approximately NIS 60 million.

When a family is accepted into the program, the Ministry of Labor and Welfare issues a card loaded with NIS 500 each month via Eshel Jerusalem-Chabad. The card can be used for purchasing food products worth NIS 250 (not including tobacco and alcohol) in select supermarkets and local stores, and the purchase of vegetables, fruit and dry foods from food rescue (delivered to the families' homes) worth an additional NIS 250 NIS (NIS 180 for fruit and vegetables and NIS 70 for dry foods).

A growing, international awareness about the issue of food waste is apparent. This year we expect that additional governments, non-governmental organizations and corporations will adopt policy measures to reduce the phenomenon of food waste worldwide. In addition, the availability of innovative technologies will be utilized for this global effort.

Latet

The NPO Latet also operates in the field of food rescue, primarily in the industrial sector, in cooperation with the Association of Food Industries of the Manufacturers Association of Israel. In 2016, it began a food rescue pilot with the Shufersal supermarket chain.

The Natural Step Israel (TNS)

During 2017, TNS began educational activities, on an experimental basis, in the school system, preparing materials and lesson plans for the Ministry of Education on reducing food waste, and promoting a project for supermarkets to sell products close to their expiration date at reduced prices.

11 Obstacles and Policies to Encourage Food Rescue

Although many countries around the globe are making an effort to encourage food rescue, Israel has no 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 2017 National Report of Food Waste and Rescue, similar to its predecessors, demonstrates the significant economic 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 Credit: Leket Israel

Policy Measures Necessary to Encourage Food Rescue in Israel:

1 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.

2 Finalize the Law to Encourage the Rescue of Food Surpluses

Proposed legislation, similar to the Good Samaritan Law in the US, passed its preliminary reading in the Knesset plenum and is now waiting to be discussed in the Knesset Labor, Welfare and Health Committee in order to complete the legislative process.

The Law to Encourage the Rescue of Food Surpluses absolves NPOs and food donors from civil or criminal liability, as long as they comply with regulations and standards. Similar laws already exist in several countries, following the example of the Bill Emerson Good Samaritan Food Donation Act adopted by the US in 1996, which clears any person, corporation or government authority from civil and criminal liability for good faith donations of food that appears fit for consumption and meets legal standards for fitness and labelling.

Further, legislation granting tax benefits for food donations, such as an increased tax credit for donating food to food rescue NPOs, is needed. The tax credit is intended as an incentive for manufacturers, marketers, importers and growers of food to donate surplus food to populations experiencing food insecurity.

3 Require Food Rescue From All Budgeted and Governmental Bodies

financed Institutions, 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.).

4 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.

5 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.

Leket Israel
The National Food Bank

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 tens of thousands of tons 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 50,000 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.

www.leket.org