



# FOOD WASTE AND RESCUE IN ISRAEL

The Economic, Social and Environmental Impact



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**Produced and presented by Leket Israel**

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# Introduction

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Welcome to the Second National Food Waste and Rescue Report produced by Leket Israel and BDO Ziv Haft. The previous report, produced in 2015, was the first of its type in Israel; a pioneering document that outlined, as never before, the significant extent of the problem of food waste in the country. Estimates in the 2016 report presented herein, reveal that 2.4 million tons of food, worth NIS 19.5 billion, is wasted in Israel annually, constituting approximately 33% of domestic food production. Roughly 1.2 million tons of the waste, worth NIS 8 billion, is rescuable, meaning it is suitable for human consumption.

This year's report again demonstrates that rescuing food is highly worthwhile, 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 findings in this report indicate a slight decline in food waste in Israel, compared to the 2015 report, with 2.4 million tons wasted, rather than 2.5 million tons in the previous report. The decline is primarily the result of a 0.2 million fewer tons wasted in agriculture and industry, partially balanced by expansion of the consumption model to include a separate analysis of institutional consumption. Decrease in waste during production is not necessarily the result of a reversal in the prevailing trend. Rather, it is mostly the consequence of a one-time decrease of 6.5% in crop production caused by natural events. Conversely, the current findings

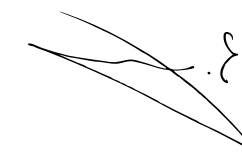
show an increase in the value of food waste, from NIS 18 billion in 2015 to NIS 19.5 billion in 2016. This increase is largely the result of extending the consumption model to include food with higher market value than the fruits and vegetables that accounted for most of the waste reported in 2015.

New in this report is a detailed model for estimating food waste in the institutional sector (i.e. catering from events, hotels, factories, Israel Defense Forces - IDF - bases, etc.). Institutional consumption accounts for approximately 17% of total food consumption in Israel, but represents the highest potential for food rescue during the consumption stage. Estimates indicate that approximately 1.8 million people in Israel eat out of the home each day, consuming approximately 650 million meals annually, totaling approximately 720,000 tons of food (including meals that were not consumed), worth NIS 12.5 billion (in terms of food cost). Of this institutional consumption, 214,000 tons - worth approximately NIS 3.5 billion - is wasted. Roughly one-third of the food wasted at the institutional level is rescuable, meaning that approximately 70,000 tons of food with a total value of NIS 1.1 billion could be rescued annually. This equals approximately 64 million meals in an average year or approximately 175,000 meals every day.

It is our hope that the findings of this report will motivate Israel's decision makers to take action (in addition to simply making declarations) to develop a national policy that creates genuine change in the patterns of food rescue in Israel.



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***Food consumption  
and production  
in Israel***

**NIS 2,435** *the average household expenditure on food in Israel*

## Food consumption and production in Israel

Food consumption in Israel, as elsewhere around the world, is one of the most basic human needs. 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.

Consuming food is a rudimentary, existential necessity, and maintaining a balanced diet is essential to ensuring the health of the population as a whole, and the 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 Israel, food consumption is the highest cost component of a household's expenditure basket, accounting for about 16% of an average household's spending, and 22% for those households in the two lowest percentiles. Therefore, ensuring nutritional security among the general population and supporting food rescue measures are both matters of high economic significance.

The cultivation and production of food inherently require the utilization of natural resources that

are relatively rare or which have substantial financial costs such as land and water. In a densely populated country like Israel, where land is an expensive and scarce resource (high in demand), and which faces problems of both food insecurity and housing insecurity, 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 greenhouse gas (GHG) emissions in the world are generated during the various stages of food cultivation, production, and distribution.

This report also 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 experience accumulated in the last year. Furthermore, it includes a new, detailed model for estimating food waste in the institutional sector, including but not limited to meals and other cooked food prepared for use at IDF bases, factories, catering halls, hotels, and restaurants—any place where meals are served in a congregate setting.





***Food rescue:  
Integrating economic,  
environmental, and  
social contributions***

**50%**

global goal to reduce food waste by 2030

**Food rescue is the economic endeavor of transforming food surplus, currently of zero or negative value, to food of economic value, to distribute to the underprivileged populace**

## Food rescue: Combining economic, environmental, and social contributions

Food waste is not a phenomenon unique to the Israeli economy, and is evident in similar volumes in all Western economies. According to the United Nations (UN) Food and Agriculture Organization (FAO) estimates, roughly a third of all food produced worldwide is wasted, translating to a quarter of produced caloric value.

In 2015, the United States (US) and Europe announced far-reaching goals for reducing food waste by 50% by 2030. France enacted strict laws prohibiting supermarkets from discarding food and Italy enacted similar laws for restaurants. The

UN promulgated international standards so food waste can be measured in a uniform manner in all countries (see section 9).

In Israel, despite initial steps reflecting regulatory awareness of the issue (proposed legislation, establishing an inter-ministerial investigative committee, and declarations by cabinet ministers) there have yet to be any concrete results. Two 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.

### The importance of rescuing food stems from three central benefits

1

#### Economic benefit

Rescuing food means transforming zero or negative value waste to an economically valuable commodity, thus increasing the gross national product and productivity

2

#### Social benefit

Waste reduction 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

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

The uniqueness of food rescue lies in its ability to assist underprivileged individuals at a low budgetary and economic cost. This is due to the fact that only the cost of food rescue needs to be funded and not the full cost of buying new food.

The hierarchy of handling food worldwide is an accepted directive relating to the handling of surplus food, which determines priority in handling food that is not consumed. In the framework of this hierarchy, a clear priority is given to the prevention of food loss and ensuring that the loss will not prevent consumption by the weaker populace.

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 are support through donations, subsidies, allocations and allowances. The uniqueness of food rescue stems from its ability to help the needy at a low economic

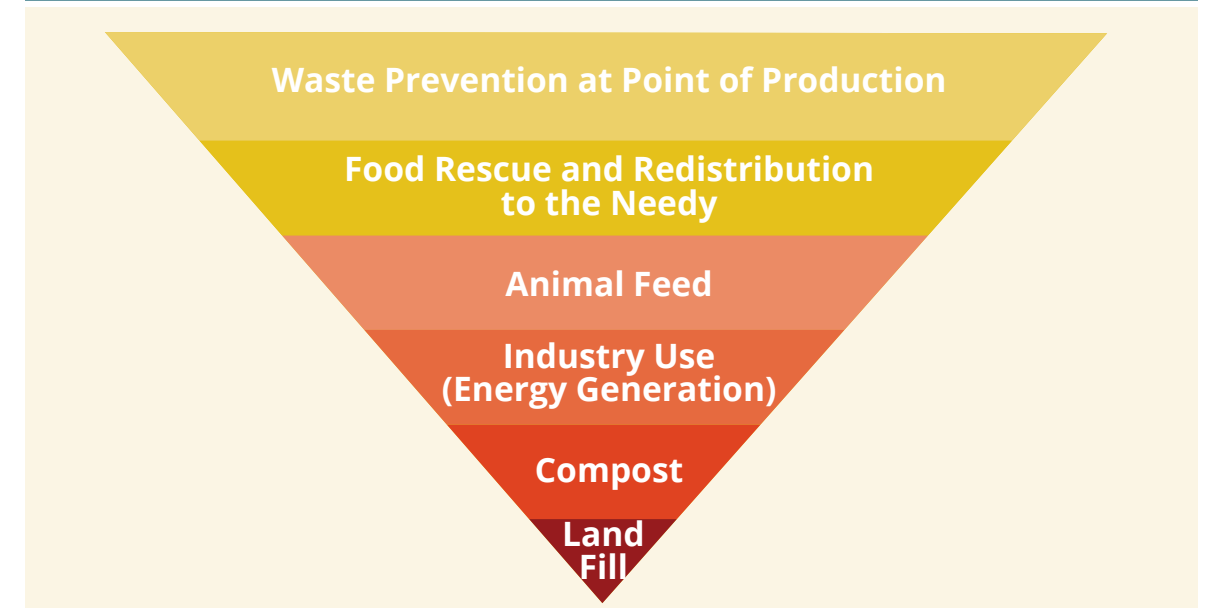
and budgetary cost. Instead of financing the full cost of food purchases, it is only necessary to finance the cost of its rescue.

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

**The uniqueness of food rescue lies in its ability to assist underprivileged individuals at a low budgetary and economic cost. This is due to the fact that only the cost of food rescue needs to be funded and not the full cost of buying new food.**

Food rescue is a unique policy measure because it inherently incorporates both approaches. Rescuing food and transferring it to the underprivileged populace increases national productivity while concurrently reducing inequality.

### The Economic-Environmental Hierarchy of Food Recovery



Source: EPA



***Food rescue =  
Alternative to  
food production***



# NIS 3.6

worth of food can be saved for every NIS 1 invested

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

*Food rescue is not primarily philanthropic or charitable, but an alternative economic means for food production, one that is clearly beneficial to the national economy, and contributes to reducing inequality.*

## Food rescue: Alternative to food production

Throughout the growing, production, distribution and marketing of food in Israel, approximately 33% of domestically produced food is lost and becomes waste or surplus. Food

reliance on natural resources, land or water pollution, and use of fertilizers or pesticides.

Approximately 50% of food waste is rescuable, equivalent

**Food rescue creates the availability of food without the utilization of resources and costs of production, while also preventing the majority of detrimental environmental impacts resulting from the production process.**

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

Economically speaking, food rescue should be viewed as a comprehensive alternative to excess food production. However, in contrast to the usual food production processes, the raw materials relied on for food rescue are surplus that would otherwise have been wasted.

Consequently, food rescue creates the availability of food without the utilization of resources and costs of production, while also preventing the majority of detrimental environmental impacts resulting from the production process. Food rescue is a winning formula for producing food without substantive

| Food Rescue Benefits                             |                   |                                |
|--|-------------------|--------------------------------|
|  | Food Production   | Food Rescue                    |
| Product  | Nutritional Foods | Nutritional Foods <sup>1</sup> |
| 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                            |

1. May be aesthetically flawed

to the production of 1.2 million tons of food, valued at NIS 8 billion.

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 means for food production, one that is clearly beneficial to the national economy, and contributes to reducing 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, for every dollar spent rescuing food, 5.7 dollars' worth of food is rescued. There are additional environmental and social benefits generated by food rescue as well.

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 needy clientele they serve. Although food rescue in Israel is still in its infancy, 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 increase of the multiplier making it similar to that in Australia. However, to be conservative in our estimations, we have based our assessments on the current cost structure.

In terms of benefits to the national economy, it is also necessary to consider the positive environmental and social contributions of food rescue. These contributions were not measured in the context of the Israeli economy, but assuming such environmental and social benefits are similar to the average costs around the world, the multiplier would then 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 <sup>2</sup> | 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

2. Market price of alternative product with similar nutritional value.



***Food waste and  
rescue in institutional  
consumption***

**20%** of the food consumed in Israel is served within the framework of institutional catering

*In monetary terms, the cost of the food components in these meals alone totals approximately NIS 3.5 billion annually. Approximately one-third of the institutional meals now wasted are rescuable, meaning that it would be possible to save approximately 70,000 tons of food annually, equivalent to approximately 64 million meals, with a total value of approximately NIS 1.1 billion each year on average.*

## Food waste and rescue in institutional consumption

Approximately 20% of the food consumed in Israel is served within the framework of institutional catering: meals served at factories, workplaces, IDF bases, police stations, hotels, catering halls, restaurants, schools, hospitals, etc<sup>3</sup>.

Household consumption has a low economic feasibility of food rescue because of the high logistical costs resulting from the wide physical distribution of the excess meals. In congregate settings, where many people are served food together in one place, there is greater potential for food rescue. Therefore, it is of paramount importance to analyze the amount of food wasted in the institutional sector.

According to BDO estimates, on an average day in 2016 approximately 1.8 million people ate one meal outside of the home, for a total of some 640 million meals each year. Approximately 722,000 tons of food are used to prepare these meals. The value of food components used in meals eaten by consumers outside of the home is estimated to be NIS 12.5 billion annually, equivalent to approximately 17% of the total expenditure for food in Israel, and approximately 11% of the food consumed in quantitative terms.

According to the 2016 National Food Waste and Rescue Report, the total amount of food wasted in the institutional sector amounts to 214,000 tons annually, representing 30% of institutional

food consumption. In monetary terms, the cost of the food components in these meals alone totals approximately NIS 3.5 billion annually.

According to the report's estimate, approximately one-third of the institutional meals now wasted are rescuable<sup>4</sup>, meaning that it would be possible to save approximately 70,000 tons of food annually,

equivalent to approximately 64 million meals, with a total value of approximately NIS 1.1 billion each year on average.


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

Institutional kitchens in workplaces, the IDF, catering halls and hotels need to ensure a varied supply of food in sufficient quantity under conditions of uncertainty. This uncertainty is inherent as it is

difficult to fully anticipate how many people will attend an event, how many workers will be absent on a given day, or how many soldiers will decide not to eat in the dining room on their base.

In recent years, most institutional kitchens have been operated by external companies with a high level of expertise in the field. They 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 on non-average days. Therefore, food preparation must allow for sufficient margins to accommodate

### Estimated Food Waste in Institutional Consumption



|   | Events    | Hotels    | Hospitals | IDF       | Police   | Workplaces | Prisons  | Educational institutions | Restaurants | Total        |
|---|-----------|-----------|-----------|-----------|----------|------------|----------|--------------------------|-------------|--------------|
| <b>Relevant population</b> <sup>5</sup><br>Per 1,000 people | 141       | 91        | 190       | 186       | 29       | 400        | 29       | 360                      | 403         | <b>1,829</b> |
| <b>Meals served</b> (yearly)<br>Per million meals           | 51        | 48        | 94        | 98        | 7.5      | 96.5       | 26       | 65                       | 147         | <b>633</b>   |
| <b>Food consumed</b> (yearly)<br>Per 1,000 tons             | 103       | 83        | 75        | 122       | 10       | 169        | 18       | 32                       | 110         | <b>722</b>   |
| <b>Annual waste</b> <sup>6</sup><br>Per 1,000 tons          | <b>44</b> | <b>31</b> | <b>24</b> | <b>38</b> | <b>3</b> | <b>49</b>  | <b>4</b> | <b>5</b>                 | <b>16</b>   | <b>214</b>   |
| <b>Rate of waste</b> (%)                                    | 43%       | 37%       | 32%       | 31%       | 29%      | 29%        | 25%      | 16%                      | 15%         | <b>30%</b>   |
| <b>Rescuable waste</b><br>Per 1,000 tons                    | 19        | 7         | 7         | 15        | 1        | 17         | 1        | 1                        | 3           | <b>71</b>    |

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

4. Rescuable food - is wasted food that is fit for human consumption, not taking into account the economic cost of rescue

5. Based on the number of workdays relevant to each category. The estimate also distinguishes between different populations within each category.

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

the risk of variance, rather than relying solely on statistical averages.

As a general rule, a kitchen characterized with a higher level of uncertainty regarding the number of diners can be expected to produce a higher level of waste. For example, on open IDF bases and workplaces, where there are accessible alternatives, the food waste will be higher than in comparison to schools and prisons, with congregate settings having less uncertainty about the number of meals to be served.

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

In addition, the more varied the menu, the greater the amount of waste that can be expected due to the uncertainty regarding which choices diners 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 in workplaces, the IDF and police bases.

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 previously presents a summary, in quantitative terms, of the BDO model for estimating food wastage in the institutional sector.

The highest amount of waste in the institutional sector occurs at events, including both weddings and other family occasions, and business

events. The amount of waste at these events is approximately 43%, of which 18% is rescuable. The high rate of waste in this sector is caused by the need to offer a diverse menu, and is an inescapable component of the Western culture of prosperity. In this type of culture of plenty prevalent in Israel, creating a surplus of food is a rational economic act on the part of event operators and hosts. Despite the high rate of waste, the cost of rescuable wasted food accounts for approximately 4% of the price of an entire event. On the assumption that the waste created is the consequence of the desire to give guests a feeling of plenty, it is likely that hosts will continue to pay this extra cost in order to ensure variety and abundance.

The rate of waste in hotels is slightly lower, approximately 37%, of which 8% is rescuable. Although hotels offer a wide variety of foods, they achieve a significant decrease in rescuable waste because of the continuous nature of their activity that enables them to serve surplus, rescuable food to employees. This kind of reuse is not possible in catering halls where, by definition the event ends after the meal is served, and the staff is not employed around the clock, as it is in hotels.

Catering halls, hotels, workplaces and hospitals produce the highest level of non-rescuable food waste. At events and in hotels, the high percentage of non-rescuable waste is mostly food that remains on diners' plates because of the generous servings and variety in selections. In hospitals, the percentage of waste is similar but there food more often remains uneaten because of patients' health and lack of appetite. However, the value of the food wasted at hospitals is lower because the cost of an average meal is lower, partly due to the calculation that includes three meals a day, not only one main meal.

The value of the wasted food in the IDF is estimated at approximately NIS 300 million annually, which is 0.5% of the IDF's budget for 2016, and approximately 8% of the total food wasted in the institutional sector. Meanwhile, approximately 40% of the wasted food in the IDF is rescuable.

The lowest levels of food waste in the institutional sector are found in educational institutions and restaurants. There is less waste in educational institutions because the consumers of the catered food do not have an alternative for eating elsewhere. Moreover, the reporting system facilitates good predictive abilities, and there is very little variation from one day to the next, making it easier to supply each school with the appropriate number of meals for the actual number of students in attendance.

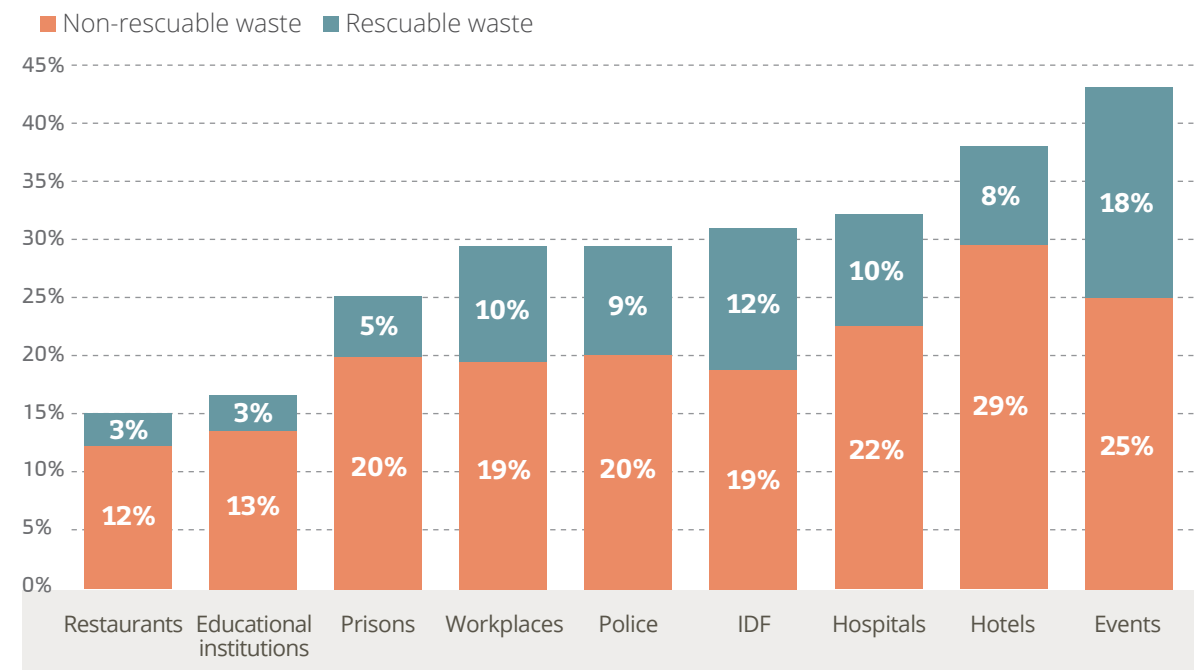
In restaurants, the amount of food waste is reduced due to the service style. Most of the food is prepared in real-time, in response to consumers' preferences and the orders they place. This also reduces the amount of non-rescuable waste that has been served on plates. Conversely, this process increases costs, and therefore, it is generally inappropriate for large-scale institutional service and hotels.

The total amount of food rescuable from the institutional sector is valued at approximately

NIS 1.1 billion. Approximately half of this amount is from events, from which it is likely possible to rescue approximately 18,000 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 likely possible to rescue food worth NIS 110-180 million annually from each of these sources. The value of rescuable food from restaurants is similar; approximately NIS 108 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.

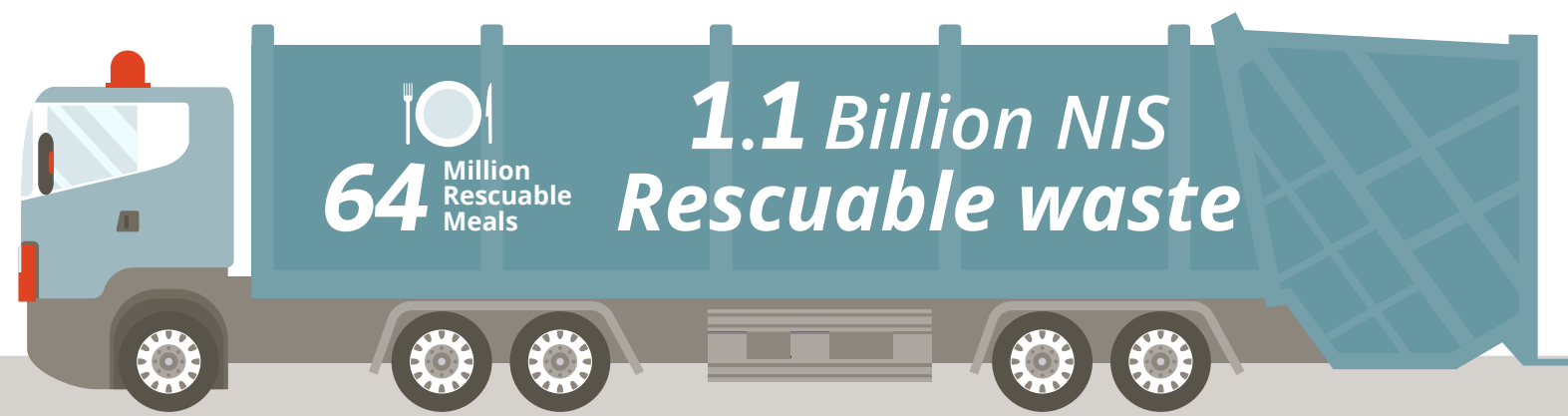
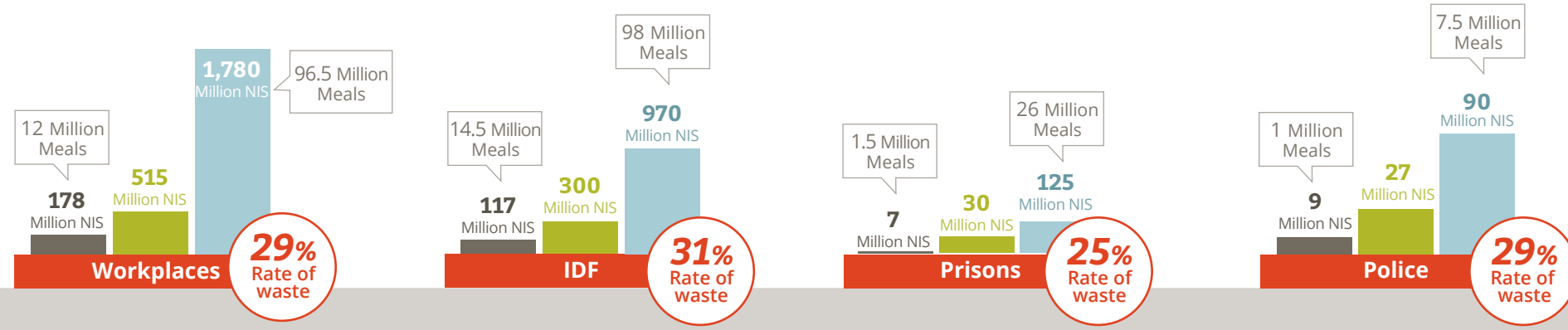
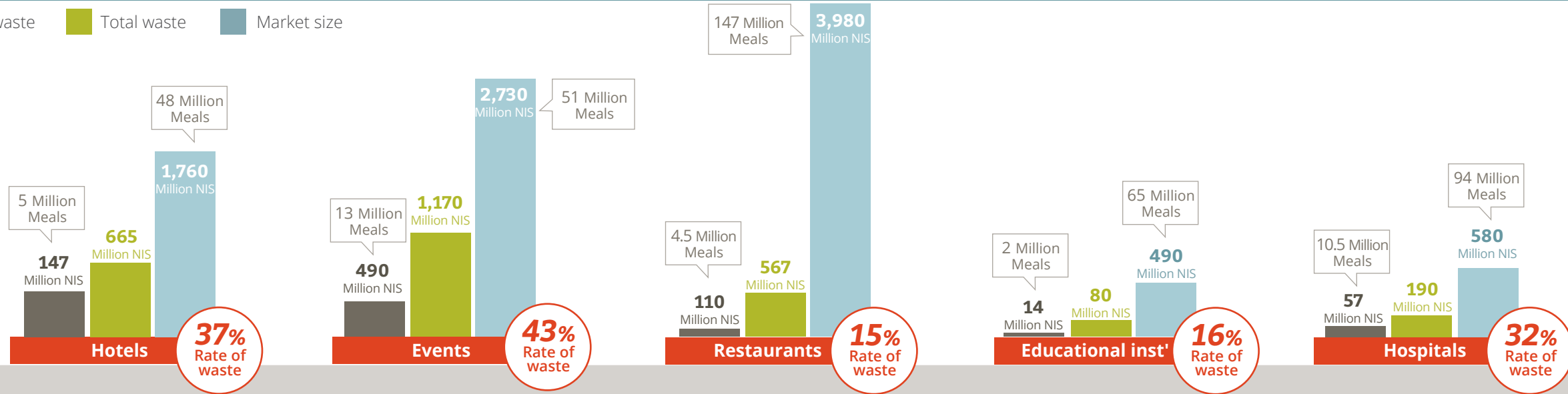
The high return on investment for food rescue in the institutional sector is a consequence of the relatively high value of the rescued product, as well as the relatively low logistical costs of collecting food from large kitchens with a low geographic distribution, concentrated in city centers and industrial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

### Rate of Food Waste by Category of Institutional Consumption



# Annual Summary: Wasted Food In the Institutional Sector based on cost of food

Rescuable waste
  Total waste
  Market size





***Food rescue:  
Feasibility to the  
national economy***

**4.4 Billion NIS**

*potential benefit to the national economy thanks to food rescue*

*Food rescue alleviates food insecurity while realizing a 73% cost savings, and also provides significant social and environmental benefits*

*For the national economy, such efforts would generate a value of NIS 2.1 billion annually, bridging the gap between the value of rescued food and food rescue costs*

## Food rescue: Feasibility to the national economy

The rescue of 450,000 tons of food annually, constituting 19% 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, every shekel spent on food rescue saves an amount of food valued at NIS 3.6. According to the conservative assumption that this ratio will be maintained even when the scope of food rescue is expanded, the cost of rescuing NIS 3 billion will be only NIS 810 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 entails unique 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, meaning that every shekel invested in food rescue generates a direct economic value 3.6 higher than the cost.**

Food rescue is clearly preferable compared to the alternative of attempting to bridge this food

insecurity gap by means of allocations, donations, subsidies or support for the needy. Without food rescue, it would require an annual cost of NIS 3 billion to fully finance this gap. Food rescue allows for reaching a similar social goal at a significantly lower cost – NIS 810 million annually. Specifically, food rescue alleviates food insecurity while realizing a 73% cost savings, and also provides significant social and environmental benefits.

The principles of economic theory dictate that revenue in goods is an inferior alternative to monetary revenues, as it deprives those receiving support of the freedom to allocate resources according to their full range of needs. Therefore, in principle, the general tendency is to choose the allocation of monetary support over the direct provision of products. However, food rescue entails unique 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, meaning that every shekel invested in food rescue generates a direct economic value 3.6 higher than the cost. Moreover, taking into consideration the FAO estimates of external environmental and social impact, the increased benefit to the economy is 7.2 times that of the cost.

In this context, it should be noted that the food insecure 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 then choose to allocate some of the effective increase in disposable income to consume 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 now having resources released and available to be used to address other basic needs and services.

In September 2015, the US government established a national food waste reduction goal of 50% within 15 years. Analysis of the data shows that rescuing even less than half of the American goal, just 20% of the food waste in Israel, and contributing it to 450,000 households suffering

from food insecurity, would provide enough food equivalent to fully covering their food intake in relation to the normative level. For the national economy, such efforts would generate a value of NIS 2.1 billion annually, bridging the gap between the value of rescued food and food rescue costs. This is even prior to considering the added benefits to the national economy in terms of poverty and inequality reduction, and before the external environmental benefits are factored.

It should be emphasized that the incremental realization of a 50% national food waste reduction goal, spanning a 15-year period, is not expected to reduce the volume of agricultural production in Israel for local consumption compared to current conditions, but rather is expected to only reduce the growth rate of local food production.

| <b>Food Rescue: Summary of Estimated Feasibility to National Economy NIS in Millions Annually</b> |                             |                 |              |              |
|---|-----------------------------|-----------------|--------------|--------------|
| Percentage of Rescued Food from Food Waste  | 1% <sup>6</sup> (currently) | 5% <sup>7</sup> | 10%          | 19%          |
| Recovered Food (in 1,000 tons)  | 24                          | 120             | 240          | 450          |
| Food Rescued Share of Food Insecurity Gap   | 5%                          | 26%             | 53%          | 100%         |
| Value of Rescued Food   | 120                         | 770             | 1,550        | 2,940        |
| Cost of Food Rescue   | 30                          | 210             | 430          | 810          |
| Benefit to National Economy (before external factors)   | 90                          | 560             | 1,120        | 2,130        |
| Environmental-Social Contribution (FAO)   | 120                         | 600             | 1,190        | 2,260        |
| <b>Total Value of Food Rescue to National Economy</b>   | <b>210</b>                  | <b>1,160</b>    | <b>2,310</b> | <b>4,390</b> |

Source: BDO estimates 6. Calculated based on the actual food rescued 7. Calculated based on the average value of rescuable food in Israel



***Food waste:  
How much food is  
wasted in Israel?***



**39%** of food represents waste in the consumption stage

## Food waste: How much food is wasted in Israel?





Food waste estimates in Israel are based on a unique model of the value chain in domestic food production. Estimated at approximately 2.4 million tons annually, food waste in Israel constitutes 33% of overall domestic food production<sup>8</sup>. Approximately 39% of that food waste, in quantitative terms, represents waste in the consumption stage.

Findings of the 2016 National Food Waste and Rescue Report indicate a decrease of 0.1 million tons in food waste, compared to the findings in the previous report. However, this decline does not necessarily reflect a change in trend; it is primarily

the result of one time changes in Israeli agriculture, which experienced a 3.5% decrease in production primarily the result of a 6.5% decrease in crop production, due to natural disasters and residual effects of the Shemita year. The drop during the production stage was partially balanced by the expansion of the consumption model used in the current report, which includes a separate analysis of food waste during institutional consumption.

In monetary value, some 20% of the value of waste, worth approximately NIS 4 billion, occurs during the various stages of production, while the remaining

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

| Household Loss (monthly NIS)   | Growing Stage | Packaging | Industry  | Distribution | Consumption | Total      |
|--|---------------|-----------|-----------|--------------|-------------|------------|
|  Fruit & Vegetables | 67            | 32        | 2         | 84           | 131         | <b>315</b> |
|  Grains & Legumes   | 3             | 2         | 1         | 13           | 134         | <b>152</b> |
|  Meat, Fish & Eggs  | 12            | 2         | 13        | 53           | 104         | <b>183</b> |
|  Milk & Dairy       | 4             | 1         | 1         | 2            | 17          | <b>24</b>  |
| <b>Total</b>   | <b>86</b>     | <b>35</b> | <b>17</b> | <b>151</b>   | <b>385</b>  | <b>674</b> |

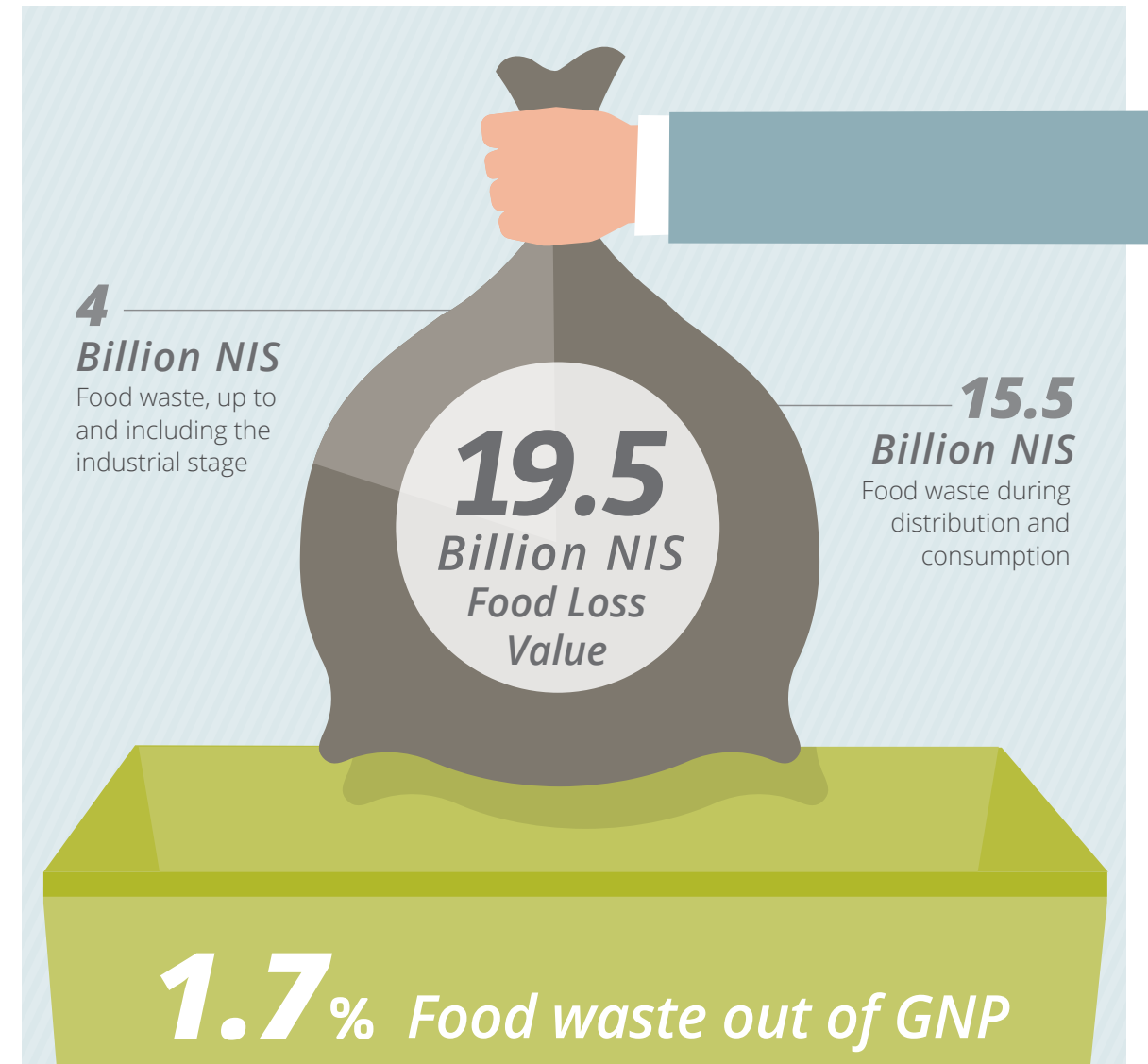
8. The value chain model does not include beverages, energy boosters, sugar, honey and candy.

nearly 80% of the waste, worth approximately NIS 15.5 billion, 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 various foods<sup>9</sup>.








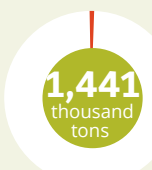




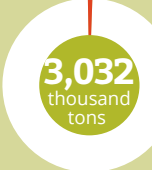







9. We are aware such estimates may include deviations or inaccuracies that are inevitable in view of lacking any official data. Additionally, the volume of annual food waste also depends on random variables, such as weather conditions, natural events and pests, deviations in demand, etc. It does not include impact of singular events or deviations from the norm. This data is indicative and intended to serve as the basis for public debate, and further research and study.

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 (Dr. Ron Porat, 2015 & 2016). The estimated total loss of food and the types of food are based on the total loss in each one of the products and stages.



# Food Value Chain - Share of Food Loss in Each Stage

Loss percentage figures were rounded for presentation purposes

|  |  <b>Fruit &amp; Vegetables</b>  |  <b>Grains &amp; Legumes</b>  |  <b>Meat, Fish &amp; Eggs</b>  |  <b>Milk &amp; Dairy</b>  | <b>Total</b>   |   |   |
|--|--|--|---|--|--|---|---|
|  <b>Agriculture</b>                |  <b>4,278</b><br>thousand tons<br><b>13%</b><br>(542,000 ton)<br>loss   |  <b>523</b><br>thousand tons<br><b>5%</b><br>(24,000 ton)<br>loss       |  <b>690</b><br>thousand tons<br><b>4%</b><br>(29,000 ton)<br>loss    |  <b>1,493</b><br>thousand tons<br><b>4%</b><br>(52,000 ton)<br>loss   |  <b>6,985</b><br>thousand tons<br><b>9%</b><br>(648,000 ton)<br>loss    |   |   |
|  <b>Processing &amp; Packaging</b> |  <b>3,736</b><br>thousand tons<br><b>8%</b><br>(286,000 ton)<br>loss    |  <b>500</b><br>thousand tons<br><b>4%</b><br>(20,000 ton)<br>loss       |  <b>661</b><br>thousand tons<br><b>1%</b><br>(4,000 ton)<br>loss     |  <b>1,441</b><br>thousand tons<br><b>1%</b><br>(7,000 ton)<br>loss    |  <b>6,338</b><br>thousand tons<br><b>5%</b><br>(318,000 ton)<br>loss    |   |   |
|  <b>Industry</b>                  |  <b>587</b><br>thousand tons<br><b>3%</b><br>(20,000 ton)<br>loss      |  <b>476</b><br>thousand tons<br><b>2%</b><br>(9,000 ton)<br>loss       |  <b>546</b><br>thousand tons<br><b>5%</b><br>(27,000 ton)<br>loss   |  <b>1,422</b><br>thousand tons<br><b>1%</b><br>(17,000 ton)<br>loss  |  <b>3,032</b><br>thousand tons<br><b>2%</b><br>(74,000 ton)<br>loss    |   |   |
| Net Import<br>non-food uses<br>deducted  | <b>25+</b><br>thousand tons  | <b>887+</b><br>thousand tons   | <b>130+</b><br>thousand tons  | <b>133+</b><br>thousand tons   | <b>1,176+</b><br>thousand tons   |    |   |
|  <b>Distribution</b>             |  <b>3,303</b><br>thousand tons<br><b>11%</b><br>(349,000 ton)<br>loss |  <b>1,347</b><br>thousand tons<br><b>2%</b><br>(25,000 ton)<br>loss   |  <b>759</b><br>thousand tons<br><b>5%</b><br>(39,000 ton)<br>loss  |  <b>1,550</b><br>thousand tons<br><b>1%</b><br>(8,000 ton)<br>loss  |  <b>6,958</b><br>thousand tons<br><b>6%</b><br>(421,000 ton)<br>loss  |   |  |
|  <b>Consumption</b>              |  <b>2,953</b><br>thousand tons<br><b>18%</b><br>(522,000 ton)<br>loss |  <b>1,322</b><br>thousand tons<br><b>19%</b><br>(245,000 ton)<br>loss |  <b>719</b><br>thousand tons<br><b>10%</b><br>(75,000 ton)<br>loss |  <b>1,542</b><br>thousand tons<br><b>5%</b><br>(80,000 ton)<br>loss |  <b>5,637</b><br>thousand tons<br><b>14%</b><br>(923,000 ton)<br>loss |   |   |
|  |  |  |   |  |  |  <b>4</b><br>Billion NIS } <b>20%</b><br>Loss    |   |
|  |  |  |   |  |  |  <b>15.5</b><br>Billion NIS } <b>80%</b><br>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 also extensively discussed 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 of previous reviews, international comparison studies and more.

The 2016 National Food Waste and Rescue Report includes improvements in the statistical analysis and methodology that were made possible by information received from the Ministry of Agriculture, the Israeli Central Bureau of Statistics, and the Volcani Institute.

There is great variance in the volume of food waste among the different foods types reviewed, as well as in the stage in the value chain in which the waste occurs. The value of agricultural produce per ton increases as it progresses down 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 on the basis of 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 1.7% of domestic production.

This estimate is approximately NIS 1.5 billion higher than estimates for 2015 despite the quantitative decrease in the amount of waste. This is primarily due to the expanded model now including waste during the institutional consumption stage, which has a higher monetary value than waste at the agricultural stage where values are relatively low.

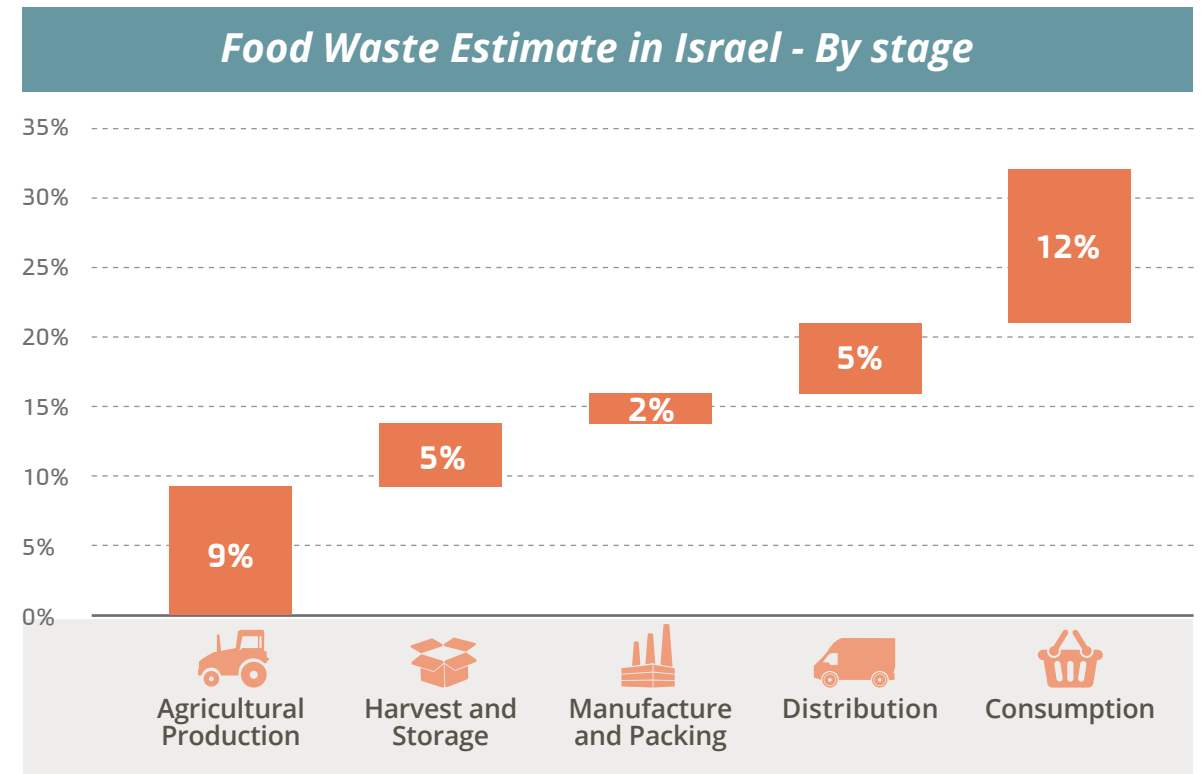
**Food waste can be divided into two stages of the food value chain:**

- 1** From initial agricultural production to final stage of industrial food processing (food waste in production).
- 2** From distribution and retailing to final loss at the consumer level (food waste in consumption).

**Food Loss Estimate in Israel 2015 Thousands of Tons<sup>10</sup>**

|                               | Growing Stage   | Processing & Packaging  | Industry  | Distribution  | Consumption   | Total        |
|-------------------------------|---|---|---|---|---|--------------|
|                               |  |  |  |  |  |              |
| <b>Fruit &amp; Vegetables</b> | 542   | 286   | 20  | 349   | 522   | 1,720        |
| <b>Grains &amp; Legumes</b>   | 24  | 20  | 9   | 25  | 245   | 323          |
| <b>Meat, Fish &amp; Eggs</b>  | 29  | 4   | 27  | 39  | 75  | 176          |
| <b>Milk &amp; Dairy</b>       | 52  | 7   | 17  | 8   | 80  | 165          |
| <b>Total</b>                  | <b>648</b>  | <b>318</b>  | <b>74</b>   | <b>421</b>  | <b>923</b>  | <b>2,384</b> |

Source: BDO estimates 10. Figures were rounded for presentation purposes



The value of food waste in initial stages, up until distribution, is estimated at approximately NIS 4 billion, constituting 14% of overall domestic agricultural output in Israel. The total of food waste in the latter stage, from packing houses to final household or institutional consumers, is approximately NIS 15.5 billion, constituting about 21% of food retail revenues in Israel.

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. A high waste rate of fruit and vegetables is not exclusive to the Israeli economy. Compared to international data, Israel's waste rate 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 agricultural production and consumption stages, but greater waste in the intermediary stages. The 2016 report shows a decrease in the rate of waste, beyond the decline in the amount of produce. Among the reasons for excess production is the desire to ensure continuous supply even

during years when production suffers because of external factors (i.e. weather, etc.).

Total food waste in all value chain stages, translates to a loss of approximately NIS 674 monthly per household in Israel, as the result of wasting approximately 82 kg of food monthly per household. Quantitatively speaking, approximately 61% of this waste is incurred during production, manufacturing and distribution, prior to food reaching household or institutional consumers. In monetary terms, roughly 57% is lost, or wasted, during consumption. Because of the decrease in production, the 2016 National Food Waste and Rescue Report identifies an increase in imports in order to meet demand, which increases each year because of population growth. Thus the estimate for waste in the field is smaller but there is an increase in the estimated amount of waste during consumption, and also an increase in the total monetary value of the waste (even if fewer tons were wasted).



***Food waste:  
How much food  
can be rescued?***

# 1.2 Million Tons of food a year is rescuable

## Food waste: How much food can be rescued?

Roughly 33% of food produced in Israel is lost or wasted, during the production, distribution and consumption stages, totaling approximately 2.4 million tons annually. This translates to food waste valued at NIS 19.5 billion, equivalent to 1.7% of the GNP. About half of this waste is considered unworthy of human consumption due to natural disasters, damage during production processes, and the like, 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

to food producers (i.e. farmers, manufacturers, distributors, etc.) to invest additional resources in the more advanced stages or next steps of the production and distribution chain. The surplus at the consumption stage stems from the need to meet a variety of tastes and needs in conditions of uncertainty.

It is clearly evident that zero food waste is an impossible goal. However, reducing food waste, either by prevention or by rescuing surplus, would be a valuable primary public objective.

Estimates of food fit for rescue is derived from the food value chain model designed specifically for the food industry. Classification into rescuable (worthy of consumption) vs. unrescuable food were analyzed according to each food type, and

their loss rates, in each of the value chain stages. It is important to note that classification of rescuable foods does not address economic viability of rescue, but rather the feasibility to use this food waste to feed people. According to estimates deduced in the report, roughly 50% of food waste is rescuable and can, given appropriate resources and economic viability, serve to feed needy populations suffering from food insecurity. For analytical purposes, 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 the notion of consumerism and prosperity, with consumers extracting benefit (and enjoyment) not only from food consumption, but also from a range of selections and even excess. Economically, as long as consumers pay the full amount for purchased products, no restrictions are placed on their consumption. The problem in the case of food consumption is that, while production of food entails the use of natural resources and the subsequent environmental impact, its external costs are not calculated in the price paid by consumers for food - aspects that were not reviewed in our study.

Conversely, institutional consumption creates a substantial amount of waste that can also be attributed, in part, to the culture of prosperity. However, in the case of institutional consumption

there is potential for significant rescue, due to the logistical advantages of having the excess food found concentrated in a relatively small number of locations.

### 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 Unworthy of 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

■ Total Consumption ■ Total Local Production ■ Loss ■ Recoverable Loss % Percentage of Loss



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



***Food security: How much food is required to close the food security gap in Israel?***

# 450,000 Tons

of wasted food each year need to be rescued in order to close the food insecurity gap in Israel

## Food security: How much food is required to close the food security gap in Israel?

One of the greatest challenges facing the Israeli economy is the problem of inequality in distribution of income. The inequality level in Israel, measured by the Gini (Inequality) Index, is one of the highest of developed economies, after the US, Turkey, Chile, and Mexico. Food insecurity is one of the consequences of income inequality.

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

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.

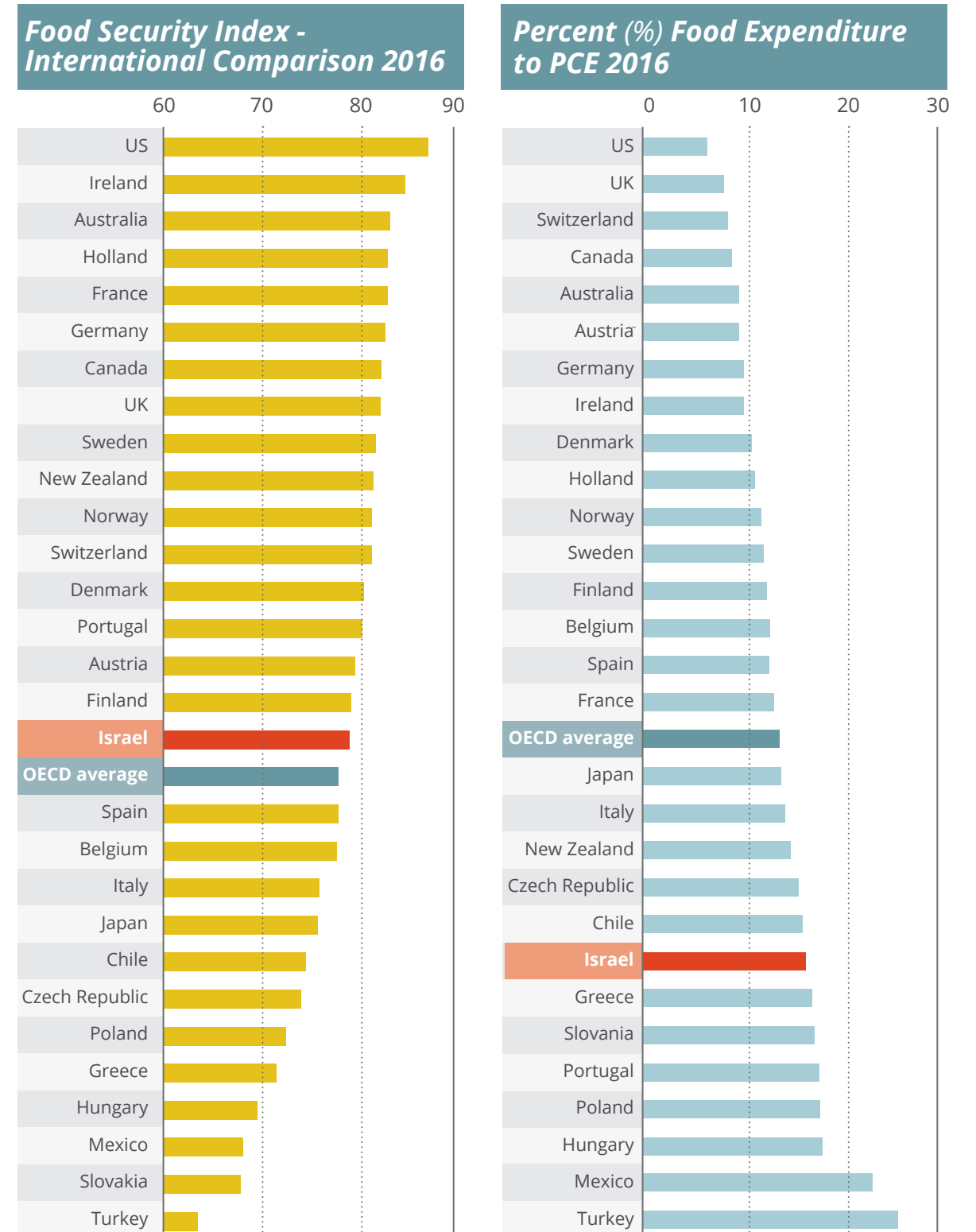
According to The Economist 2015 Global Food Security Index, Israel is ranked 17th in food security among member states of the Organization of

Economic Cooperation and Development (OECD). Among OECD countries, Israel is ranked 8th 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 paradoxically food security in the US is 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

| Israel's Ranking in Inequality and Food Security |        |              |                          |
|--|--------|--------------|--------------------------|
|  | Israel | OECD Average | OECD Index <sup>12</sup> |
| Gini Index (inequality)                          | 0.37   | 0.32         | 5                        |
| Poverty Rate                                     | 19.1%  | 11%          | 1                        |
| Food Security Index                              | 79     | 78           | 17                       |
| (%) Food Expenditure to PCE <sup>13</sup>        | 16%    | 14%          | 8                        |

Source: USDA and Global Food Security Index  
 12. Israel ranks 34 of member states. High rank = High inequality  
 13. Personal Consumption Expenditure



Source: Economist 2016 Global Food Security Index

problem of food insecurity, evident among other things by the American reliance on food stamp programs Supplemental Nutrition Assistance Program (SNAP) to ensure food provision to the needy. Furthermore, the US is a pioneer in instating food banks to save surplus food and distribute it to underprivileged populations, and is 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 as part of the Personal Consumption Expenditure (PCE) in Israel is among the highest in the world, measured at 16% - a number 2.5 times that of the US. Therefore, a policy of food rescue and distribution to the underprivileged populace would be an effective welfare policy particularly applicable to Israel, where a significant portion of household expenditure is allocated to food.

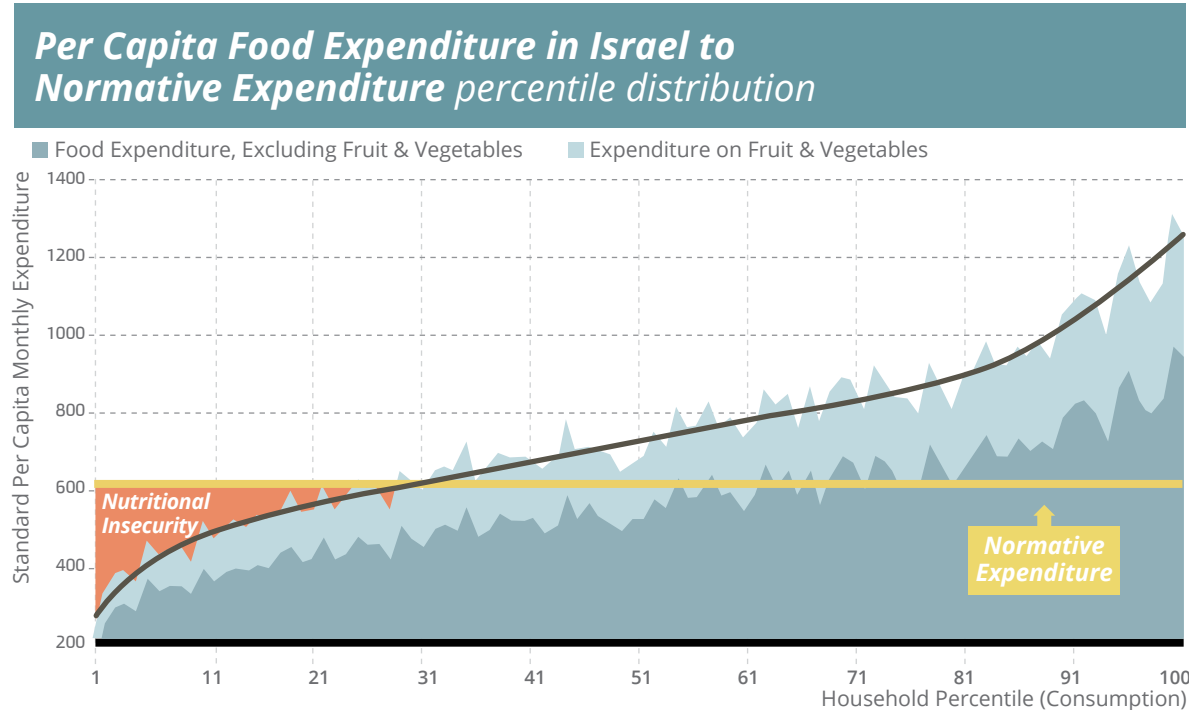
The definition of food security is subjective. In order

to examine food rescue effectiveness as a policy measure to increase food security in Israel, the methodology of Chernichovsky and Regev<sup>14</sup> was relied upon to define normative food expenditure as a measure of expenditure that remains constant even with an increase to household income.

To examine normative food expenditure, expenditure<sup>15</sup> on food of the lowest percentiles relative to normative levels was reviewed. 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.

According to estimates, the volume of food required to bridge the gap between actual food consumption of food insecure populations and normative consumption level (average levels of second-to-fifth percentiles), is valued at approximately 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 2.1 billion, with an additional 0.8 billion

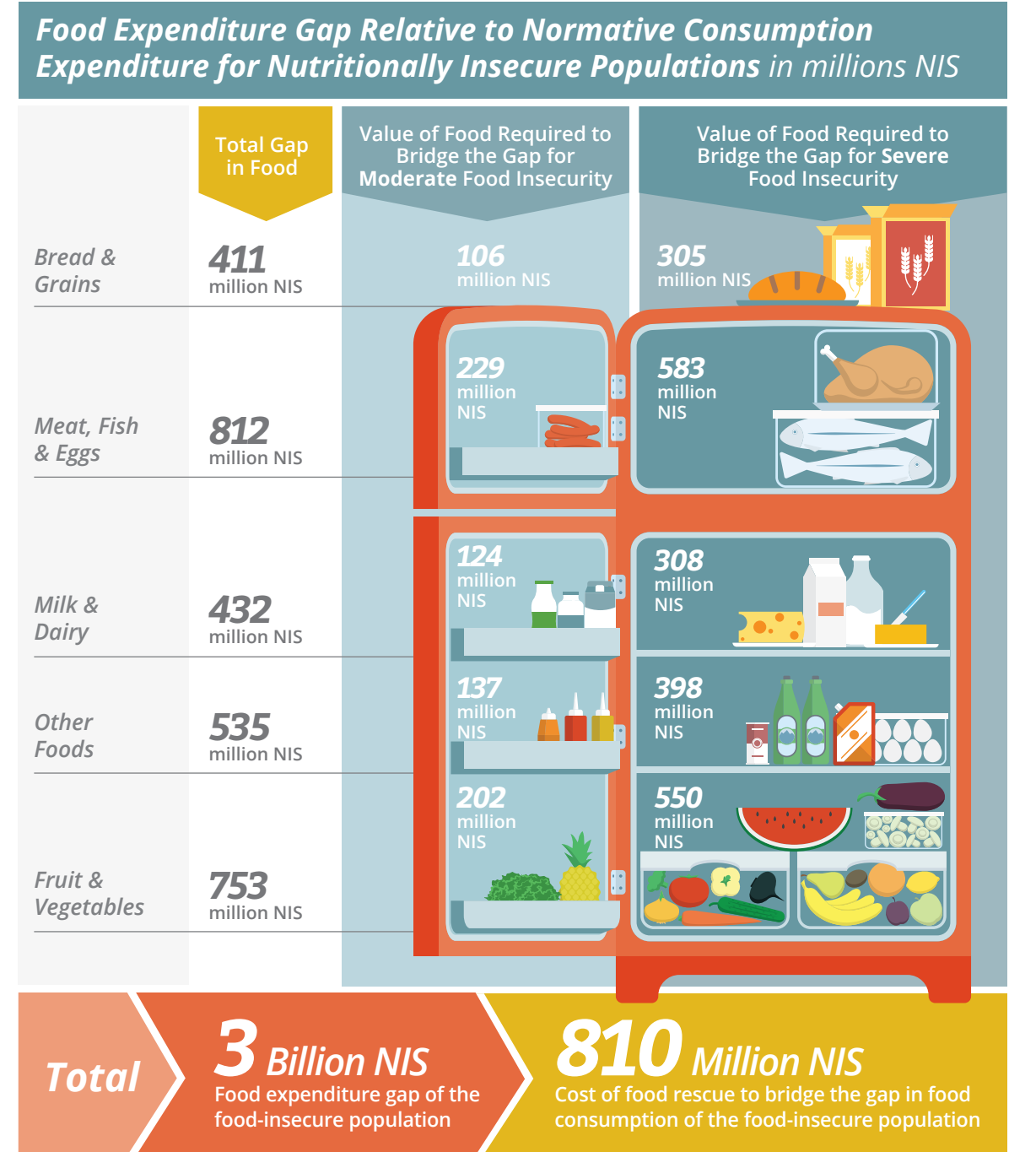
14. Patterns of Expenditure on Food in Israel, Taub Center, 2014. 15. Excluding "dining out", alcoholic beverages and carbonated beverages.



NIS required to assist populations experiencing moderate nutritional insecurity.

The rescue of 450,000 tons of wasted food each year, constituting 19% of overall food waste in Israel, would enable the closing of the food insecurity gap

in Israel. Accordingly, an estimated NIS 810 million would enable the rescue NIS 3 billion in food, equivalent to the gap between food expenditure of food insecure populations and normative expenditure levels.



Source: BDO estimates





***Developments in  
food rescue, in Israel  
and globally***

*Beginning in 2008, the United States adopted a federal law to encourage the rescue of food surplus from government contracts.*


## Developments in food rescue, in Israel and globally


During 2016, due to growing global awareness, international institutions and countries around the globe instituted measures to reduce food waste. A consortium of leading international organizations, including the UN, announced the first-ever international standard for measuring food waste.


 The UN itself, 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 last year: reducing the amount of food waste by 50% by 2030.

 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, effectively forces all supermarkets and grocery stores with a selling area exceeding 400 m<sup>2</sup> to contribute any excess food to food banks rather than discarding it. In other EU countries there have been calls to adopt the French law, and Italy has begun the process of adopting similar legislation.

On January 1, 2016, France increased the supervision of restaurants and caterers. Restaurants that serve 150 or more people per day must now recycle food if it adds up to more than 10 tons annually. Restaurants that do not comply are liable to pay a fine of €75,000.

 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. This proposal, which passed in the lower house of parliament, is currently being debated in the Italian Senate. 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.

 Great Britain adopted a multiyear 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.

 In 2016, increasing awareness of the issue of food waste was also seen across the United States of America. After the US government declared, in September 2015, a national goal to halve the amount of food waste by 2030, large food manufacturers including Unilever, Kellogg's and Nestlé, expressed their support for the program.

France became the first country in the world to prohibit supermarkets from discarding food




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.

International awareness of food waste is increasing and becoming stronger. As a result, during the coming year more governments, NPOs and corporations are expected to adopt measures for reducing food waste around the world. Similarly,

**International awareness of food waste is increasing and becoming stronger. As a result, during the coming year more governments, NPOs and corporations are expected to adopt measures for reducing food waste around the world. Similarly, the accessibility of innovative technologies will be utilized for the benefit of this global effort. Israel will no longer be able to ignore the need to act consistently with the international effort to combat food waste. Local decision-makers should act decisively to implement a comprehensive national plan to reduce food waste in Israel.**

the accessibility of innovative technologies will be utilized for the benefit of this global effort.

Israel will no longer be able to ignore the need to act consistently with the international effort to combat food waste. Local decision-makers should act decisively to implement a comprehensive national plan to reduce food waste in Israel.

 This year, in Israel, the trend of rescuing increased quantities of food continued. Based on data provided by Leket Israel, BDO estimates that food rescue in Israel increased by approximately 11.5%. Leket Israel is the largest food rescue organization in Israel and responsible for the majority of food rescue in the country. With the assistance of approximately 56,000 volunteers, Leket Israel rescues food worth approximately NIS 170 million in retail value each year. In 2016, Leket Israel increased the amount of cooked food it rescued by 26%, and the amount of rescued harvest from agriculture by 5%. During the year, Leket Israel rescued approximately 17,000 tons of food.

The rescue of hot meals, which is unique on the global scene, grew substantially for the third consecutive year. Projects for collecting food from hotels in Eilat and IDF bases continued for the second consecutive year and grew considerably.

**Significant activities by Leket Israel in the past year include:**

**1** Expansion of the program for collecting hot meals in Eilat: The Isrotel and Dan hotel chains joined the meal rescue project that began with the Fattal chain last year. This enabled a larger amount of food to be collected while streamlining the collection routes, and improving the support provided by the organizational infrastructure in Be'er Sheva.


**2** Expansion of activity with the IDF: There was a significant increase in the number of IDF bases around the country that donate food. More efficient collection of meals from bases, by either NPOs directly or Leket Israel's professional teams and specially fitted vehicles, made it possible to transport more nourishing, quality meals to soup kitchens and NPO throughout Israel.

**540,000** meals rescued in 2016 from hotels

**440,000** meals rescued in 2016 from IDF facilities



Leket Food collection at Leonardo Plaza, Eilat  
Credit: Leket archive

 **Israel will no longer be able to ignore the need to act consistently with the international effort to combat food waste.**

### Food Loss (kg) per capita per year - Global Comparison

Waste in Other Sectors    Waste during Consumption



**10**

***Obstacles and  
policies to encourage  
food rescue***

*Realizing the national potential of food rescue requires setting government policy as food waste is the result of "market failure"*

## Obstacles and policies to encourage food rescue

Realizing Food rescue potential requires setting government policy, since the loss of food is the result of "market failure". By this we mean that although food rescue is highly worthwhile from the perspective of the national economy, from the business perspective of each link in the value chain of food production and sale, there is no direct economic benefit to producers, manufacturers, and suppliers from food rescue.

### **Require all state-funded bodies to collaborate with a registered food rescue NPO as a condition for state funding.**

Food rescue lacks direct economic feasibility because the market price of the rescued food is lower than the cost of rescue. The low market price of rescued food is usually the result of the food's characteristics including aesthetic flaws, short shelf-life, damaged packaging, approaching sell-by date or upsold surpluses. Yet, from the perspective of needy people, rescued food has full nutritional value, and therefore a high economic value.

Additionally, difficulties in logistics contribute to market failure.

It is difficult to isolate and identify populations characterized by food insecurity, and there is a risk of being exposed to lawsuits. In cases of market failure, the state would be well advised to intervene to direct and regulate the situation. Although many countries around the world have legislated means for overcoming these obstacles, the State Comptroller warned in 2015 that Israel lacks a comprehensive national policy for food rescue.

Last year, the Ministry of Welfare established an inter-ministerial committee to develop an integrative, food rescue-based plan for dealing with the problem of food insecurity. Following the committee's deliberations, the Ministry of Welfare published its first tender for a national food security initiative, to issue cards to 10,000 families around the country enabling them to purchase food and receive rescued fruits and vegetables, worth NIS 180 per family each month. According to the requirements of the tender, the value of the food rescued will be NIS 21.6 million. Despite these preliminary steps, a comprehensive policy for overcoming the obstacles that prevent widespread food rescue remains to be developed.

The report recommends four additional initial policy measures necessary to encourage food rescue in Israel.

## Necessary policy measures to encourage food rescue in Israel:

- 1** **Finalizing legislation of the Law to Encourage the Rescue of Food Surpluses**

The proposed legislation 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 set by the Ministry of Health. Similar laws already exist in several countries, following the example of the Good Samaritan law adopted by the US in 1996.
- 2** **Require food rescue of all governmental and government-financed institutions**

To requiring state-funded bodies with kitchens catering to 1,000 or more patrons daily to collaborate with registered food rescue NPOs as a condition for government support (including those managed by subcontractors, defense agencies, school catering programs, government companies, etc.).
- 3** **Require food rescue as a condition for private businesses to participate in government tenders**

Require private organizations that participate in government tenders supplying services to the state (not necessarily food related), and that have sources of rescuable food available, to collaborate with registered food rescue NPOs as a threshold condition for contracting with the state. This means that businesses that provide services to the state, and which are thereby indirectly funded by taxpayers, will be required to return otherwise wasted food they have funded to the public. This legislation is similar to the section on food-related tenders in the US Federal Food Donation Act of 2008.
- 4** **Determining national food rescue goals**

Set a national goal to reduce food waste by 50% by the year 2030, as specified by the UN and similar to the target set by the United States. Adopting a national goal will place the issue on the national agenda and even more importantly, create governmental commitment to act towards the realization of this objective. In addition to setting a national goal, it is necessary to establish measurement and monitoring tools to facilitate ongoing review of compliance and progress towards the goal.



## ***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 those in need. Standing at the forefront of food rescue, each year Leket rescues and redistributes tens of thousands of tons of food to needy clientele through its network of nonprofit organization (NPO) partners.

To attain such impact, Leket Israel rescues a range of food types from several different sectors: picking fresh produce straight from the field, collecting leftover agricultural produce from packing houses, rescuing meals from various prepared food suppliers, and recovering surplus manufactured food from industry.

Using Leket Israel's fleet of refrigerated trucks, rescued food is transported to two advanced logistics centers where the food is staged under optimal conditions. The organization's complex logistics network is responsible for efficiently

distributing the rescued food from the centers to NPOs throughout the country under strict quality control and 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 other food products high in protein, calcium and vitamins.

Leket Israel's success is derived from the extraordinary generosity of approximately 56,000 volunteers a year from all over the country and the world. This inspiring network of volunteers dedicate their time and effort to pick, harvest, collect, prepare, and distribute food.

***Striving to fulfill a vision where all food surpluses are rescued, Leket Israel is constantly seeking new sources of rescuable food and working to expand its network of NPO partners.***

[www.leket.org](http://www.leket.org)