**6. Food Loss: How Much Food Can Be Saved?**

8.1 billion NIS - the value of salvageable food

“The value of salvageable lost food is approximately 8.1 billion NIS. The value of lost food increases along the value chain, as more resources are invested in growing, production, packaging and transportation.”

Approximately 2.6 million tons of food per year -- 37% of the food produced in Israel -- are lost during the production, retail, distribution, and consumption stages. The direct cost of this food loss is approximately 23.1 billion NIS, which comprises 1.4% of the GDP. There are additional costs of greenhouse gas emissions and air pollutants from producing food that is wasted, bringing the total cost of food loss to approximately 27 billion NIS. About half the quantity of lost food is edible and could be salvaged.

In terms of food rescue, the most important element is edible food (with nutritional and health value) that does not reach the consumption stage. There are various and diverse reasons for this loss, at each of the stages of food production. The common denominator is the lack of economic viability for the food producer (farmer, industrialist, retailer, etc.) to invest additional resources in the subsequent stages of food production or distribution.

The goal of reducing the amount of lost food, whether by preventing its production or by saving surpluses that have been created, is at the top of the global public agenda. The estimates for salvageable food amounts were derived from the value chain model developed for the food industry. For each type of food and at each stage along the value chain, the factors causing loss were examined and lost food was classified as either fit or unfit for human consumption. It is important to note that classifying food as salvageable does not refer to the economic viability of saving it, but rather to the safety eating such food and the technical possibility of using it to feed people.

The value of salvageable lost food is approximately 8.1 billion NIS. The value of the lost food increases along the value chain, as more resources are invested in growing, production, packaging and transportation. The following table shows that the greatest value of lost food is in the retail and distribution sector. These food products are ready for marketing and consumption, but are discarded before reaching the final consumer.

**Table: The Value of Salvageable Food Lost Along the Value Chain**

|  |  |
| --- | --- |
| Agricultural production | 1840 |
| Packaging and handling | 470 |
| Industrial processing | 275 |
| Retail and distribution | 4405 |
| Consumption | 1150 |
| **Total** | 8140 |

**\*These figures have been rounded for ease of presentation. Source: BDO estimates**

According to the estimates presented in this Report, about half of the food that is lost or wasted could be used to feed needy populations experiencing food insecurity, if there were adequate resources to make salvaging it economically viable. On an individual level, food insecurity is a risk factor for chronic disease and mental illness. Saving even 20% of the food that is lost or wasted in Israel would fill the nutritional gap for people living with food insecurity [for more details, see Chapter X]. This also has economic benefits on the national level, because food insecurity results in some 6.2 billion NIS per year in excess healthcare costs [for more details, see Chapter Y]. Additionally, salvaging 50% of the lost food would save about 200 million cubic meters of water, 650 million kilowatts of energy, 40,000 tons of fuel, and many land resources.

**Table 2: Estimate of Salvageable Food in Israel, in Thousands of Tons**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Total consumed** | **Total produced** | **Lost food**  | **Salvageable lost food** | **Rate of loss** |
| Fruit | 1,519 | 1,777 | 616 | 203 | 35% |
| Vegetables | 1,575 | 1,701 | 908 | 576 | 53% |
| Potatoes and starches | 337 | 624 | 232 | 163 | 37% |
| Grains & legumes\* | 1,544 | 403 | 410 | 85 | 27% |
| Meat, eggs & fish | 843 | 789 | 217 | 73 | 27% |
| Milk & dairy products | 1,710 | 1,714 | 224 | 65 | 13% |
| Total | 7,528 | 7,009 | 2,607 | 1,165 | 37% |

\*Loss of grains and legumes is calculated from consumption because most of the grains consumed are not produced in Israel. Source: BDO estimates.

Although there are different approaches to the subject of food loss or waste at the home consumption stage, in this Report, food lost or wasted in the home is not considered to be salvageable. Western culture is one of consumption and abundance, and consumers apparently derive benefit or pleasure not only from the consumption of food, but also the existence of selection, variety, and even surpluses.

However, since food production involves the use of natural resources and causes environmental damage, the cost paid by the consumer does not embody all the economic external costs involved. Therefore, there is justification for activities to encourage the reduction of food waste, for example, through government outreach programs. Some Western countries have offered such programs to raise public awareness about the external impacts of producing food that is not consumed, including money wasted by consumers and damage to the environment.

|  |  |
| --- | --- |
| **Salvageable food** | **Non-salvageable food** **(Unfit for human consumption)** |
| √ Unharvested edible agricultural produce  |  |
| √ Agricultural produce with aesthetic defects  | X Contaminated food  |
| √ Agricultural produce unsold in the wholesale markets | X Food damaged by natural hazards that made it unfit for consumption |
| √ Unsold surpluses in marketing chains and stores  | X Spoiled food  |
| √ Surplus prepared food from catering, institutional kitchens and restaurants  | X Leftovers from food preparation processes (shells, kernels, skin, fat) |
| √ Food with packaging or presentation defects  | X Food that went from the kitchen to the catering area and/or was served but not consumed |
| √ Food approaching its expiration date and not expected to be sold |  |