



Prosperity



Reducing Food Waste



Actionable Area

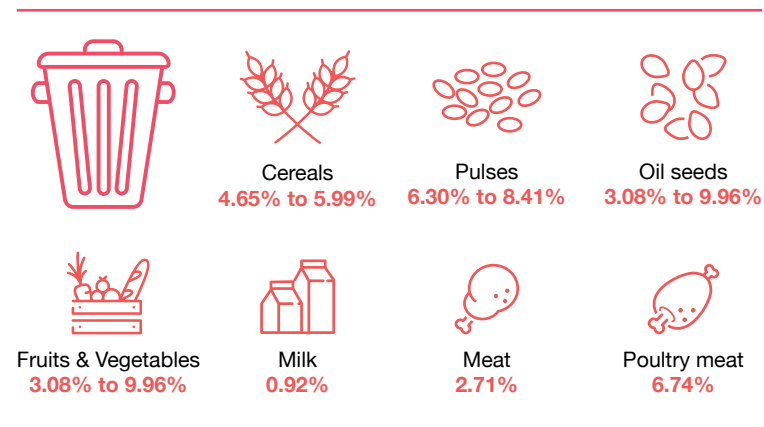
To reduce the current level of food waste in India by encouraging to process of more food towards longer shelf life.

Issue

- Currently, global food waste is at an epidemic level, with approximately one-third of the food supply worldwide being lost or wasted. This coupled with the fact that the world population expected to reach 9.7 billion in 2050, global food production systems will be stressed. Thus, towards reaching the SDG Vision of Zero Hunger by 2030, it is crucial to work towards reducing food waste.
- It is imperative to understand the difference between food loss and food waste. Food loss is defined by the FAO as the decrease in the quantity or quality of food resulting from decisions and actions by food suppliers in the chain, excluding retailers, food service providers and consumers.
- Food Waste refers to the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers.
- Food waste is generated through following modes -
 - On-farm food waste:** Fresh produce that isn't considered optimal in terms of shape, size and colour, and is therefore discarded during sorting/grading operations.
 - Retail level food waste:** Foods that are close to, at or beyond the "best-before" date, which are discarded by retailers and consumers.
 - Household level food waste:** Large quantities of wholesome edible food are often unused or left over at households. These are discarded from household kitchens and eating establishments.

What & How much India wastes

The average range of food loss is 4.6%-15.8%



Source: PIB, ICAR/CIPHET

- While reducing both food loss and food waste will lead towards 'Zero Hunger', it will also enable better usage of land and water resources and positively impact climate change and livelihoods. According to FAO, 17% of total global food production may be wasted (11% in households, 5% in food service and 2% in retail).
- It is pertinent to note that the household per capita food waste generation is found to be broadly similar across country income groups, suggesting that action on food waste is equally relevant in high, upper-middle and lower-middle income countries. This also showcases that building awareness around food waste among citizens is crucial, as the household level waste contributes the largest share to food waste globally.
- For India, there is no national level estimation of food waste. There are a few studies which estimated food waste based on a very small sample size and isolated to particular cities. Hence, they cannot be considered at a national level. Following are the details of those studies -
- The leading cause of food waste at a manufacturing level is due to production issues which globally account for 32.4% of food wastage in manufacturing. A top concern for food manufacturers is always pathogen contamination. Production lines are under strict scrutiny to produce safe products and remove any product that could be suspected. The rejected products can add up to large amounts of waste. Thus, updated technologies and automated manufacturing lines will help reduce this wastage.
- Transportation is one of the biggest challenges for food waste because a lot of products can be lost due to spillage. Time in transit plays a substantial role in the life of a product, especially fruits and vegetables. Having a climate-controlled mode of transit is beneficial for products with a very limited shelf life. If the transportation system is not controlled, there is a possibility of infestation, spoilage, and reduced shelf life.
- The challenge for the food industry is to tap its immense creative capacity to re-engineer waste in food production in both the developing and the industrialised world. Re-engineering food processes can minimize losses, turn waste by-products into profit and introduce a new dimension of the product value.

Study	Study Area	Food waste estimate (kg/capita)
Grover & Singh, 2014	Dehradun	73
Ramakrishna, 2016	Rajam, Andhra Pradesh	58
Suthar & Singh, 2015	Dehradun	20

Status

Government Initiatives

- The government is undertaking several initiatives towards reducing food waste. The Indian Food Sharing Alliance (IFSA) has been set up as a social initiative for retail-level food waste reduction by the Food Safety and Standards Authority of India (FSSAI). IFSA aims to solve India's food waste and hunger crisis by integrating various partner organisations, food recovery agencies, and NGOs. However, towards scaling up the food donation initiatives in India, a few crucial aspects of taxation implication, liability on donors, and regulatory issues such as labelling on products need to be streamlined.

- Towards reducing food waste at the on-farm and manufacturing level, the government has initiated several schemes by strengthening infrastructure and encouraging food processing. These include,

a. Mega Food Park Scheme: The scheme aims to link agricultural production to markets by using a cluster approach, implemented by a Special Purpose Vehicle (SPV). It supports the creation of infrastructure for setting up modern food processing units in the park and connecting it with a well-established supply chain. Currently, 41 Mega Food Parks have been approved under the scheme, of which 22 are operational.

b. Cold Chain, Value Addition & Preservation Infra: The scheme aims to provide integrated cold chain and preservation infrastructure facilities along the entire food processing supply chain. It covers a minimal processing centre having weighing, sorting, grading, packing, storage, and quick freezing facilities. Grant-in-aid is provided for 35% - 50% storage infrastructure and transport infrastructure and 50-75% value addition and processing infrastructure. As of June 2021, 353 cold chain projects were approved, and 230 were completed.

c. Creation of Food Processing & Preservation Capacities:

The scheme aims to create and modernise processing and preservation capacities by increasing the level of processing and value addition, leading to a reduction in wastage. Under the scheme, a capital grant of 35-50% is given. As of February 2021, 145 projects were approved under this scheme.

d. Food Safety & Quality Assurance Infra: The scheme aims to give the food and agro-processing sector a competitive edge in the market by creating infrastructure for safety and quality assurance services. Under this scheme, the government extends financial assistance of 50-70% for the cost of laboratory equipment and 25-33% for civil work, and 50-75% reimbursement for HACCP/ ISO Standards/Food Safety/Quality Management Systems. As of January 2021, 76 food testing labs were instituted under the scheme.

e. Agro Processing Cluster: The scheme aims at cluster approach-based development of modern infrastructure and common facilities to encourage a group of entrepreneurs to set up food processing units. The scheme provides grants-in-aid of 35-50% of the eligible project cost. As of March 2021, 56 projects were approved under the scheme.

Private Initiatives

- The Private sector in India has also been actively participating in reducing food waste by investing in food processing and undertaking initiatives towards strengthening donations by participating in IFSA and undertaking food donation on an individual level.
- During the 5 years ending 2018-19, the food processing sector grew at an Average Annual Growth Rate (AAGR) of around 10.00% at 2011-12 Prices. The Food Processing Sector has also emerged as an important



segment of the Indian economy regarding its contribution to GDP, employment, and investment. India's food processing industry had a fixed capital investment of approx. Rs 245000 crs (2017-18) and attracted an FDI Equity Inflow of US \$ 3.28 Billion from April 2014 to March 2019.

- While levels of secondary processing are high, additional focus is needed on strengthening farm gate infrastructure as primary processing plays an important role in increasing shelf life and reducing waste, especially of perishables.
- Several other initiatives are attempting to reduce food waste by focusing on collecting and distributing food donations.

a. **India Food Banking Network:** IFBN is developing an ecosystem for food security interventions to support thousands of feeding programmes in India by bringing the government, private sector, and NGOs together to fight hunger and malnutrition in India. IFBN works with the vision of establishing a strong and efficient network of FoodBanks throughout the country so that every district has access to at least one FoodBank by 2030.

b. **All India Roti Bank Trust:** AIBRT works across 20 cities in India with over 1000 volunteers to serve an average of 2,00,000 meals each month. The main aim of the organisation is to collect surplus edible food from various channels and distribute it among the needy with due dignity.

c. **Annakshetra:** The Jaipur-based NGO collects unused surplus food and makes it available to those in need through a network of volunteers. Between 2018 and 2021, they have recovered and redistributed more than 3 million meals.

d. **Feeding India:** The NGO channelises excess food from events, restaurants, weddings, corporates, etc., to beneficiaries in need and runs sustained feeding programs through their kitchens. Feeding India works with a network of 3,500 volunteers in 45+ cities of India and has served 5 million meals to people in need.

Vision 2030

- Reducing food waste in India through raising awareness across households, retail, and industry.
- Reducing farm food waste and post-harvest losses of perishables from 40% to 20% by 2030.

Pathways

POLICY



Date labelling affixed to food products is a major driver of food waste and an obstacle to food donation. Most food donors and recovery organisations are appropriately cautious about donating food that may no longer be safe. Still, it isn't always clear whether the date label accompanied by language such as 'sell by,' 'best before,' 'expiry' relates to food safety. In fact, date labels are generally intended to reflect freshness or quality rather than food safety. It is thus suggested that India should reconsider its labelling laws to move away from 'expiry' based labelling towards reducing waste.

At present, there are no tax incentives or any other monetary or recognition incentives for food donations in India. Also, Food donations (in-kind) generally cannot be used by companies to meet CSR requirements.

Several countries globally have focused on tax incentives towards encouraging food donations. For example, in Colombia, a 2016 tax reform confirmed that donors might claim a tax credit of up to 25% of the value of donations made to non-profit entities during the taxable year. Further, the country also ensures that value-added tax (VAT) does not

deter food donations. It may thus be considered to amend India's GST law to include donated products to be eligible for input credit claims.

In India, at present, there is a void of information regarding the legal liability of donated food products. There is no Good Samaritan liability protection law for food donation. The lack of this deters food donation and increases waste levels. There are several global learnings on how liability protection can enable food donation. One of the best examples of strong Liability Protection laws is Argentina. Argentina amended its Food Donation Law in 2018 to include a new liability protection clause that extends to food donors and recovery agents that receive and equitably distribute free donations of food to the needy. It is thus suggested that clear and transparent guidelines be put in place for India towards providing clarity regarding the legal liability of donated food products.

For reducing the wastage of cooked food, the government can set up a service where they collect food from every source and set up a shelter where the hungry people can come and feed themselves for free or at a subsidized rate.

Pathways

IMPLEMENTATION



Raising awareness amongst citizens on the level and impact of food wastage towards reducing waste. Encouraging food redistribution or donation programs for reducing both food loss and waste.

Scaling up local food banks to collect food donations may be accessed by the needy or distributed as appropriate.

Strengthening food packaging innovations towards increasing shelf life of perishables.

Strengthening primary processing infrastructure, including sorting/grading, packaging, etc., towards reducing farm-level wastage.

Focusing on developing cluster-level infrastructure aligned with One District One Product Vision towards optimising output and reducing food waste.

Rationalising /Reducing portion sizes for consumers by restaurants and other foodservice providers can decrease food waste and save money for food providers since food portion sizes can dictate the amount of food waste. Larger portions increase the probability of waste as a consumer may not consume all the food purchased.

Pathways



Creating a national-level benchmarking system for measuring Food waste.

Skilling up towards better handling and logistics protocols towards reducing food waste at the farm and transport level.