

## Curbing food wastage in a hungry world

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So many vegetables With many of them likely to be wasted

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*Better processing and recycling can feed 11 per cent of the world's population, many of whom are in India, that goes hungry*

Food loss and waste is an area in the food and agriculture sector where adaptations to climate change are important. Food loss and waste generates about 8 per cent of global greenhouse gas emissions.

A recent study predicts that emissions associated with food waste could increase further. Hence, the message for World Food Day, observed on October 16, was that "Climate is changing. Food and agriculture must too".

### Natural capital lost

Meeting the food needs of a growing population in India (1.7 billion by 2050) while reducing food loss and waste poses a serious challenge. Wasting a kilogram of wheat and rice would mean wasting 1,500 and 3,500 litres of water respectively that goes into their production.

Globally, almost 250km<sup>3</sup> of water and 1.4 billion hectares of land are devoted to producing food that is lost or wasted.

According to Food and Agriculture Organisation (FAO), every year around 1.7 billion tonnes, or almost one third of food produced for human consumption, are lost or wasted globally.

The associated economic, environmental and social costs of this loss are around \$1 trillion, \$700 billion and \$900 billion per year respectively.

In India, the value of food wastage (harvest and post-harvest losses of major agricultural produce) is estimated at around ₹ 92,000 crore per annum at 2014 wholesale prices. In the food value chain, 24 per cent of global food loss and waste occurs at the production stage, 24 per cent during handling and storage, and 35 per cent at consumption.

These three stages taken together account for more than 80 per cent of global food loss and waste. Quantifying food waste along the value chain by leveraging the recently released UN Global Food Loss and Waste Protocol as a framework can help India.

### The way out

The following solutions can be envisaged for solving India's food waste problem.

**Prevention solutions:** Upstream solutions include promotion of resource efficient and regenerative agricultural practices (precision and organic agriculture); improved access to low-cost handling and storage technologies (evaporative coolers, metal silos). Real time wireless sensors can monitor the storage conditions of perishable food as it is transported, and transmit this data to clients to alert them if things are going wrong.

Mega food parks are being commissioned in India to increase the processing of perishables. Other solutions include using active intelligent packaging for perishables; optimising food packaging; tapping businesses that buy unwanted food/produce directly from distributor/manufacturer for discounted retail sale; expansion of secondary markets for items with cosmetic damage; tray-less dining, encouraging sale of off-grade produce. Technology would be central to

addressing food waste; but the ultimate success will depend on our readiness to change attitudes of stakeholders along the value chain.

*Recovery solutions:* Approximately, a fifth of food at social events goes waste. Many city-based organisations are tackling this issue along with hunger. Some of these organisations collect excess food from parties and distribute it in slum areas.

Some businesses are involved in value added processing, making healthy fruit snacks from surplus produce or donated food. Mobile apps are being developed for crowdsourcing data on hunger spots and which take requests for donation of excess food. Various community level initiatives like gleaning networks, food banks and social supermarkets can help in redistributing food to 184 million undernourished Indians in need; thus helping fight poverty.

### **Staggering hunger**

These steps are critical when India ranks lowly at 97 among 118 countries according to the 2016 Global Hunger Index. In US, the PATH Act of 2015 made permanent an enhanced tax deduction for donating food, increasing business incentives to involve in food recovery.

Italy adopted a law that earmarked approximately \$10 million to reduce one million tonnes of wasted food a year by offering incentives to businesses who donate food to charities, including \$1.8 million annually to fund innovative food waste reduction projects, as well as \$2.5 million to buy food for the poor.

Recycling solution to manage food waste can include compost/energy/biogas production or redistribution and diversion as animal feed. Other uses can include organic manure and starch for household consumption.

Food waste prevention is an integral part of the Europe's new package to stimulate its transition towards a circular economy, which will boost competitiveness, foster sustainable growth and generate new jobs.

Assessing food loss and waste and developing effective policies along the value chain can help solve the food waste problem and thus contribute towards food security and sustainability. Wasting food going forward would tantamount to wasting a secure future.

Small but concentrated efforts against food waste are the need of the hour. Worldwide, 795 million people, or one-ninth of the global population, face hunger.

In India, we have 48 million or two in five children below the age of five affected by stunting. Transforming the food system in India will help to transform our future, as food waste includes wastage of natural capital.

Implementing the right strategies will help halve per capita global food waste at the retail and consumer levels, and reduce food losses along production and supply chains, including post-harvest losses.

Achieving this target is crucial as it would reduce the number of hungry people and ease the pressure on natural capital. Setting up a network of food waste innovation incubators with dedicated support would help nurture innovations in reducing food loss and waste.

Segregation of waste would be instrumental in accurately evaluating the impact of waste in key areas such as greenhouse gas and resource recovery.

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