3. International Day of Awareness of Food Loss and Waste

On September 29, the world observes the International Day of Awareness of Food Loss and Waste (IDAFLW) to highlight the global crisis of food wastage. Nearly one-third of all food produced globally is lost or wasted.

Global Scenario of Food Loss and Waste (FLW)

Post-Harvest Losses - In 2021, about 13% of global food (~1.25 billion tonnes) was lost between farm and retail, due to harvesting inefficiencies, transport damage, storage limitations, and pest infestation.
Consumer-Level Waste - In 2022, 19% of food (~1.05 billion tonnes) was wasted at household, retail, and food service levels, with households accounting for 60% of waste.
Food Insecurity - About 28.9% of the global population (2.33 billion people) suffered moderate or severe food insecurity in 2023, with 1 in 11 people facing hunger.
Climate Impact - Food loss and waste contribute 8–10% of global GHG emissions, higher than aviation and shipping combined, emphasizing its environmental cost.
Takeaway - FLW is both a food security and environmental issue, calling for action along the entire supply chain.

Food Loss vs Food Waste

Food Loss - Occurs at farm, storage, and transport stages, including crop damage due to weather, spoilage during storage, or pest attacks.
Food Waste - Occurs at retail and consumer levels, including supermarkets rejecting produce for cosmetic reasons, households overcooking, or consumers discarding leftovers.
Implication - Reducing losses requires upstream interventions (harvest, storage, logistics), while reducing waste needs consumer awareness and retail reforms.

India's Foodgrain Production and Post-Harvest Losses

Record Production - In 2024–25, India produced 353.96 million tonnes of foodgrains, including 117.51 million tonnes of wheat and 149.07 million tonnes of rice.
Post-Harvest Losses - Staple crops face 4–5% loss (paddy 4.8%, wheat 4.2%), while perishables (fruits, vegetables) face 10–15% loss.
Economic Cost - Post-harvest losses cost India ₹1.5 trillion annually (~3.7% of agri-GDP), besides wasting water, energy, and labour.
Climate Impact - Food losses in India generate over 33 million tonnes of CO_2-equivalent emissions annually, primarily from cereals and livestock.
Takeaway - Despite high production, inefficiencies in storage and supply chains reduce food availability, affect farmer incomes, and exacerbate climate impact.

Foodgrain Storage Systems in India

a) Centralized Storage - Managed by FCI and State Agencies, supporting procurement at MSP, buffer stocks, and Public Distribution System (PDS). Storage types include covered godowns, steel silos, and Cover and Plinth (CAP). Capacity (July 2025) - 917.83 LMT, essential for price stabilization and national food security.
b) Cold Storage Infrastructure - Serves perishables like fruits, vegetables, dairy, and meat. Features include pre-cooling, CA storage, blast freezing, and refrigerated transport. Capacity (June 2025) - 8,815 cold storages, totaling 402.18 LMT, supported under schemes like PMKSY and AIF.
c) Decentralized Storage & PACS Role - PACS, rural godowns, and on-farm storage reduce transport losses and improve local availability. Decentralized Procurement Scheme (DCP) enables states to procure, store, and distribute grains under NFSA. Digitalisation - 73,492 PACS computerized; 5,937 new PACS registered by June 2025.

Need for Adequate Storage

National Food Security Act (NFSA) 2013 - Requires robust storage for subsidized distribution to ~67% of population.
Population Pressure - India supports 18% of global population on 11% cultivable area, making storage

critical for uninterrupted supply.

Shortage - Despite record production, storage capacity covers <60% demand, leading to 10–15% post-harvest losses.

Regional Imbalances - Southern states >90% capacity, northern wheat/rice belts <50%, increasing spoilage and logistics costs.

Key Challenges

Post-Harvest Losses - 10–15% of grains lost annually due to pests, moisture, unscientific storage.

Cold Chain Gaps - Weak cold storage and refrigerated transport reduce quality of perishable, nutrient-rich foods.

Technological Gaps - Limited adoption of mechanized silos, hermetic storage, IoT monitoring.

Governance & Coordination - Multiple agencies (FCI, state bodies, cooperatives) cause inefficiency, leakages, and delays.

Climate Risks - Floods, heatwaves, and erratic rainfall compromise open storage (CAP).

Government Initiatives

Agriculture Infrastructure Fund (AIF, 2020) - ₹73,155 crore sanctioned for 1.27 lakh projects covering warehouses, cold storage, and logistics.

Pradhan Mantri Kisan SAMPADA Yojana (PMKSY) - 1,601 projects approved; 255.66 lakh MT annual processing capacity.

Steel Silos & Mechanized Storage - 48 silos completed, 87 under construction; mechanized storage reduces losses.

World's Largest Grain Storage Plan (Cooperative Sector) - PACS developed as multifunctional units for procurement, storage, processing, and FPS distribution.

Digitalization & Smart Solutions - AI, IoT, blockchain used to monitor stock, forecast demand, and track losses.

Benefits of Improved Storage

Food & Nutritional Security - Reduces spoilage, ensures buffer stock, and prevents fungal contamination and aflatoxins.

Reduction in Post-Harvest Losses - Cuts 10–15% losses, improves farmer incomes, reduces emissions.

Price Stabilization - Protects farmers from distress sales and consumers from inflation.

Efficient Supply Chain - Decentralized PACS-based procurement and FPS reduce handling and transport costs.

Disaster Preparedness - Maintains reserve stocks for droughts, floods, or pandemics.

Regional Balance & Strategic Importance - Bridges storage disparities and strengthens national food sovereignty.

Linking Food Security to Climate Action

Reducing FLW helps SDG 12.3 (responsible consumption), SDG 2 (zero hunger), and SDG 13 (climate action). Wastage reduction decreases GHG emissions, conserves water and land, and supports environmental sustainability. Encourages circular economy models - converting surplus food into compost, cattle feed, or bioenergy.

Way Forward

Modern & Climate-Resilient Infrastructure - Expand cold chains, mechanized silos, pre-cooling units, solar-powered storage.

Upstream & Downstream Interventions - Improve harvesting, handling, transport, and processing to reduce losses farm-to-fork.

Scheme Convergence - Align AIF, PMKSY, NFSA, and PACS for integrated storage, procurement, and distribution.

Digital Solutions - AI forecasting, IoT monitoring, and blockchain-based procurement for transparency and efficiency.

Community & Cooperative Strengthening - Revive PACS and link with FPOs for village-level storage and marketing.

Stakeholder Partnerships - Government, private sector, civil society, and consumers must work collectively to minimize food loss.

Sustainability & Circular Practices - Promote hermetic storage, recycling surplus, and reducing landfill methane emissions.

Conclusion

India's foodgrain storage and post-harvest management are critical for food security, farmer welfare, economic efficiency, and climate mitigation. Strengthening storage, expanding cold chains, integrating digital solutions, and adopting sustainable practices will ensure a resilient, inclusive, and food-secure India, while advancing global commitments under SDGs and the Paris Agreement.

Source - https - //www.thehindu.com/opinion/op-ed/what-an-empty-plate-of-food-should-symbolise/article70106079.ece