Impact of Post-Harvest Loss (PHL) on Food Security: Perspectives from Bangladesh

Sarwar Mahmud

Director General of Food

(Additional Secretary)

Government of Bangladesh

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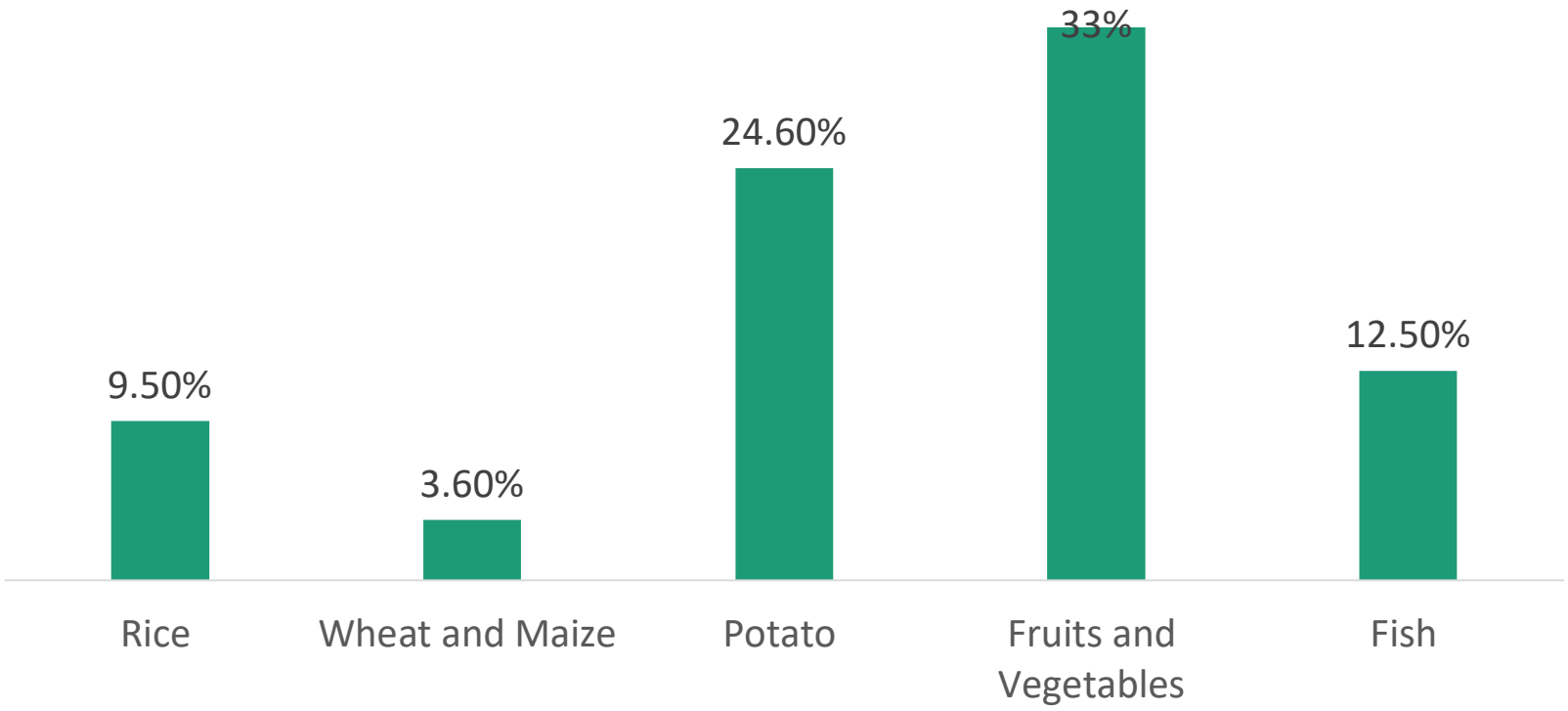
SDG 12.3:
By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

Key facts on food loss and waste

- Roughly a third of the global annual food production – 1.3 billion tons – is lost or wasted.
- Food losses and waste amount to approximately US$ 680 billion in industrialized countries and US$ 310 billion in developing countries.
- Fruits and vegetables, plus roots and tubers have the highest rates of waste of any food.
- Annual global food loss-plus waste are approximately 30% for cereals, 40-50% for root crops, fruits and vegetables, 20% for oil seeds, meat and dairy, and 35% for fish.

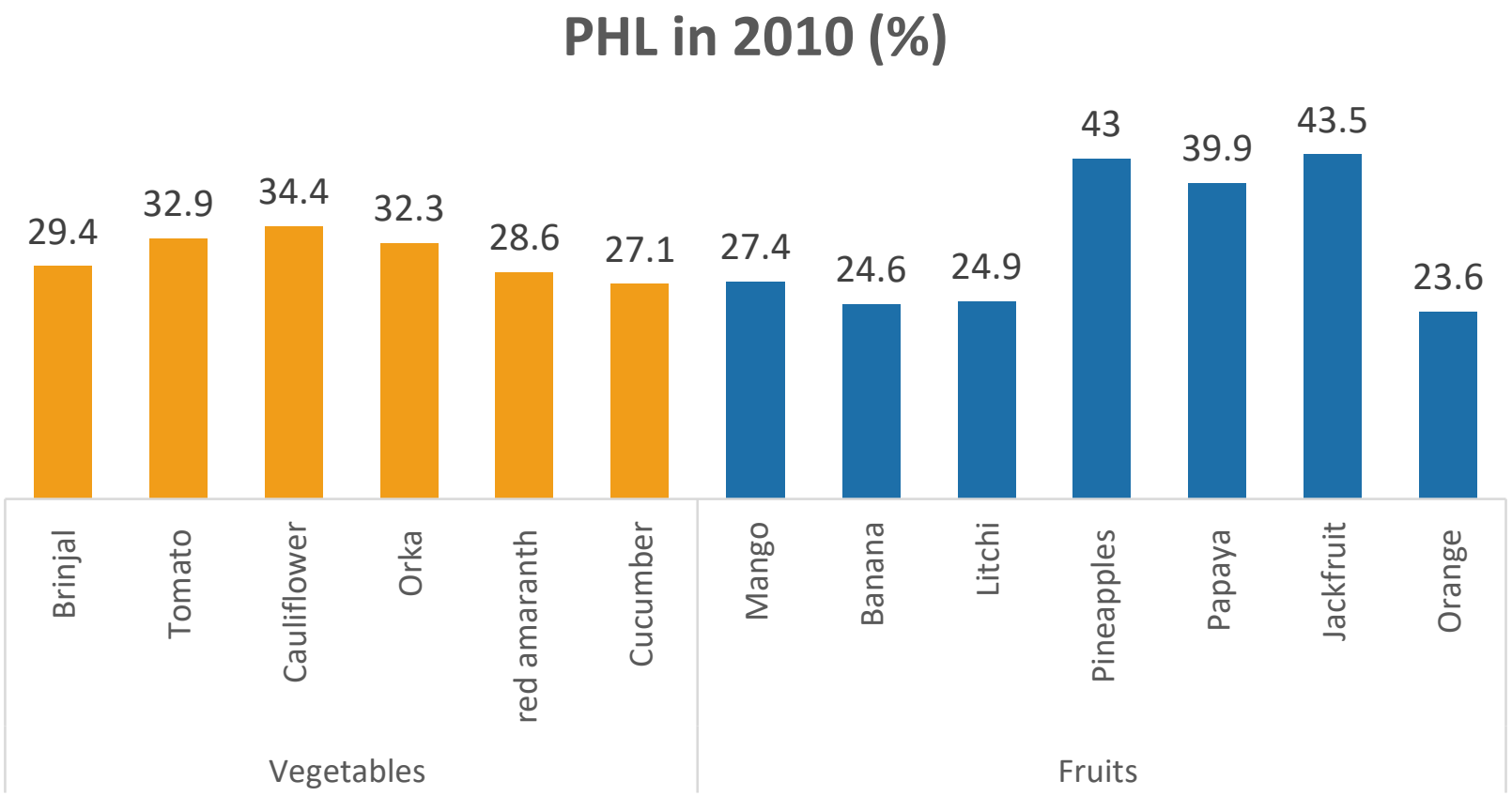
Source: *Save Food – Global Initiative on Food Loss and Waste Reduction. Food & Agricultural Organization (FAO).*

Post-Harvest Losses (PHL): Bangladesh



Source: FAO Food Policy and Capacity Strengthening Project (FPCSP), 2010

PHL in Vegetables and Fruits: Bangladesh



Source: Hassan, M Kamrul *et al.* (2010), Post-Harvest Loss Assessment: A Study to Formulate Policy for Loss Reduction of Fruits and Vegetables and Socioeconomic Uplift of the Stakeholders, National Food Policy Capacity Strengthening Programme (NFPCSP), GoB-USAID-EU-FAO project.

PHL Scenario in Bangladesh

- Need new studies to describe current food loss & waste scenario.
- FAO has identified research studies regarding post-harvest losses.
- Some public initiatives geared to reducing post-harvest losses are already in progress. Example: Modern Food Storage Facilities Project.
- Ministries of Agriculture, and Livestock & Fisheries working on reducing post-harvest losses.
- Need a comprehensive policy for the reduction of food loss and waste.

Actions Undertaken

Ministry of Agriculture:

Various measures to reduce post-harvest losses in the agriculture supply chain. Seeking technical assistance from FAO regarding food loss and waste in the crop sector.

Ministry of Fisheries and Livestock:

Technical assistance program undertaken to address the post-harvest losses in fisheries: *Technical Assistance to reduce Food Loss in the Capture Fisheries Supply Chain*.

Impact of PHL on Food Security

- Post-Harvest Loss (PHL) has potential effects on food security and nutrition through the four dimensions of food security: Availability, Access, Utilization and Stability.
- Reduced losses increase access and availability.
- Reduced on-farm losses help farmers by improving diet or providing higher incomes.
- Reduced losses increase supplies and lower prices along the supply chain, in local areas, and also in far away urban areas.

From Food to Grains: Rice in the PFDS

- The Public Foodgrain Distribution System (PFDS) was originally created to protect against famines.
- Armed with 653 facilities in the country, the PFDS currently procures and distributes more than 2.0 million tons of rice annually.
- However, PFDS storage and distribution amounts are small relative to the national scenario.
- Approximately a quarter of the private stock levels held at any point in time.

PFDS and Food Security: Safety Net Programs

- PFDS still provides a valuable contribution to ensuring food security for the poorest sections of the population.
- Food-based safety net programs such as Vulnerable Group Development (VGD), Vulnerable Group Feeding (VGF), and most importantly, the Food Friendly Program receive more than a million tons of rice annually.
- PFDS is instrumental to ensuring Availability, Access, and Stability – important pillars of food security for the poorest sections of the population in Bangladesh.

PFDS and Food Security: Measures of Quantity Loss

Do existing PFDS practices keep storage loss – a component of post-harvest loss – at acceptable levels?

- Existing practices keep storage losses below government approved limits.
- Below 1% after 12 months of storage.

PFDS and Food Security: Measures of Quality Loss

Are stored grains fit for human consumption? If not, this will add to post-harvest loss.

- Tested for Aflatoxin, Arsenic, Mold, Cadmium, Lead, Pesticides.
- Results: Aflatoxin, Arsenic, Mold, and heavy metals such Cadmium and Lead are all well below standards set by the European Commission. There were only minute traces of pesticides.

PFDS and Food Security: What Did We Learn?

- Annual storage loss less than 1%. Lower than government approved limit.
- Limited storage loss is likely related to stringent procurement standards; moisture content of procured rice and paddy, for example, cannot exceed 14%.
- Although small, 1% of 2 million tons of rice – 20,000 tons - could potentially cost $8 million (at $400 per ton).
- Stored grains are fit for human consumption.

SDG 12.3: By 2030, 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.

- SDG 12.3 does not have concrete targets regarding grain loss.
- Our results indicate a good start.

Thanks!