Promoting Sustainable Food Systems

Food Loss and Food Waste International Workshop

November 7-9, 2016
• Of the nearly 4 billion Mt of food produced annually, 1/3 is lost or wasted.
• Worth nearly US$1 trillion.
• ~ 1 billion people go undernourished
• ~ 800 million go hungry.
Vast majority of whom live in lower income countries

- North America and Oceania lose/waste nearly 1/2 of what they produce.
- Nearly 2/3 of wasted food is deliberately trashed by consumers.
- Asia and Africa account for ~ 67% of all food lost and wasted globally.
- Where, ~ 9/10 of wastage and losses occur in pre/post-harvest.
- South Asia and SSA lose as many as 400 to 500 kilocalories per person, every day.
• The food currently lost or wasted in Latin America could feed **300 million** people.

• The food currently wasted in Europe could feed **200 million** people.

• The food currently lost in Africa could feed **300 million** people.

• If just **one-fourth of the food wastage** could be saved, it would be enough to feed the **870 million hungry** people in the world.
Growing global demand for food driven by shifting demographics

Rapid Population growth, 2010 vs. 2050

Rapid urbanization, 2015 vs. 2050

2015: more than 50% residing in cities

2050: 80% will reside in cities

Source: WRI
Driving up demand for more grains, and more nutritious foods

Kastner et al. 2012; Alexandratos and Bruinsma 2012
But productivity gains remain elusive despite substantial investments in agricultural R&D

- **By 2050**, yields of BIG 4 (i.e., maize, rice, wheat, soybeans) need to increase by 60%

- Current yield gains are falling well short
Overcoming existing yield gaps and increasing productivity of in developing countries is key.
Climate Change is already impinging on yields of major crops, and projections suggest more drops ahead

By 2050:

- rice productivity will decline by **14%** in South Asia, **10%** in East Asia and the Pacific and **15%** in sub-Saharan Africa
- potato yields will likely decrease **9%–32%**
- wheat yields are expected to change anywhere from **−34.3** and **+9.7%**

Source: Challionor et al., 2014
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Any sustainable solution to global food security must prioritize meaningful and concerted action to reduce wastage
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

But, not just about ending hunger, as reducing FLW is aligned with priorities that cut across the SDGs.
Why is curbing FLW so critical to achieving the SDGs?

Key to ending poverty (SDG1) and hunger (SDG2)

1. Reducing food loss and waste can help feed the $800 million people that go hungry.
2. 470 million smallholder farmers and 290 million others lose upwards of 15 percent of their income due to FLW.
3. Also contributes to high food prices by removing part of market supply.
4. Reducing losses translates to higher productivity, incomes, and household resilience.

Key to protecting the Environment and Natural Resources (SDG6, SDG16)

1. 198 million hectares (~ size of Mexico) is used to produce food that we don’t eat.
2. ¼ of global freshwater consumption is used to grow food that is never eaten.
3. Globally, irrigation water used to produce food that is wasted would meet the domestic needs of 9 billion people.

Fighting Climate Change (SDG13)

1. Rotting food filling landfills is a major creator of methane, one of the most harmful GhGs.
Agriculture is part of the problem, AND part of the solution

• Agriculture and land use change cause ~1/4 of GhG emissions.

• This could rise to 70% by 2050, if we don’t change how we produce, market and consume our food
Carbon footprint of food wastage is ~ 4.4 GT of CO₂

- If FLW were a country, it would be the 3rd largest emitter
- Contributes 8 percent of all GhG emissions
- Nearly equal to global transport emissions
Most FLW in low-income countries occurs during pre/post-harvest. Most FLW in high-income countries occurs at retail and consumer levels.
So... solutions to curbing FLW not one-size fit

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<th>Processing</th>
<th>Distribution and Market</th>
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42% 25% 22% 19% 15% 17% 23%

Share of total food available that is lost or wasted
What is the World Bank doing?
**GOAL #1:**
Lower the % of people living on less than US$1.25/day

Down to <3% in 2030
Twin Goals – Promoting shared prosperity

GOAL #1:
Lower the % of people living on less than US$1.25/day

GOAL #2:
Foster well-being and income growth of bottom 40%

INCOME GROWTH OF THE BOTTOM 40%
So what about the Global Food and Agriculture Practice?

Our Vision

To feed every person, every day, everywhere with a safe, nutritious, and affordable diet

Four Pillars

• Boosting Investment in Agriculture
• Ensuring climate-smart agriculture
• Improving nutritional outcomes
• Strengthening value chains and improving market access
WHAT IS THE CHALLENGE?

To build food systems that meet increasing demand while remaining profitable and sustainable in the face of Climate Change.

WHAT WILL IT TAKE?
1. Increasing productivity sustainably
2. Enhancing the resilience of producers and supply chains
3. Reducing Emissions

CAN IT BE DONE?
Yes, but we need to connect Climate Change with the bottom line of farmers and food businesses

CSA = SUSTAINABLE AGRICULTURE + RESILIENCE - EMISSIONS
What is the World Bank doing to help curb FLW?

Production
- Developing/promoting adoption of improved seeds
- Promoting IPDM
- Composting
- Improved P/H technologies
- Improving market access
- Strengthening R&D and extension

Storage
- Improve access to rural finance
- On-farm storage innovations
- Inventory credit, warehouse receipts
- Collective storage
- Collective marketing

Transport
- Construction/rehabilitation of roads
- Upgrading marketing infrastructure

Processing
- Integrated grain-handling models
- Improved packaging
- Better access to electricity
- Strengthening food quality and packaging standards
Thank you!