New carrots & better sticks: Can we be optimistic about addressing big global food challenges?

Symposium on Food Waste and Sustainability: Strategies to Improve Food Safety, Food Security, and Nutrition

Institute for Food Safety and Health, Illinois Institute of Technology; Food Research Institute, University of Wisconsin-Madison, Chicago Marriott Southwest, Burr Ridge, IL
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Food waste

By-product of an increasingly unsustainable global food system

Catalyst for helping to transform the food system
Unsustainable?

- **58%** Biodiversity decline (1970-2012)
- **66%** Freshwater stress (% of people by 2025)
- **80%** Deforestation driven by agriculture
- **90%** Wild fish depletion

Data: WWF Living Planet Report 2016; UN Global Compact; UN Convention to Combat Desertification; UN Trade & Development
Broken?

20-40% Lost crop yields annually due to pests, disease

30% Malnourished people

30% Food wasted globally

75% All deaths: diet-related chronic diseases projected 2020

Data: FAO; Access to Nutrition Index; FAO; WHO
Optimistic?

4 shifts to scale-up change
Transforming the global food system

- Consumers
- Supply chains
- Capital markets
- Linear to circular economy
- Governance & transparency
- Sustainable capital
Transforming the global food system

Circular economy

Sustainable capital

Supply chain governance

Empowered consumers

Advertising
Food guides
Labelling
Education
Training
Equity & rights
Starting with the basics

Photo D. McInnes/WaterAid Tanzania
Food security

~50% of tomatoes are lost/wasted in Nigeria

1.5 billion small-holder farms: sub-Saharan Africa, South Asia
Step change

50% of the world’s farmers are female

5% extension services are accessible to women

60% of Africans have a mobile phone

FAO, 2011; World Economic Forum, 2018
Systems thinking

UN Sustainable Development Goals – 2030
Transforming the global food system

Enhancing supply chain governance & transparency
A busy, metric-driven world

Set targets & principles

Certify & label

Track & report

(Agri-food company targets not shown)

A representation of agri-food & economy-wide environmental, social & governance initiatives
Supply chain → system resilience

General Mills:

85% of its water footprint in its agricultural supply chains
Watershed plans by 2025

2018 Global Responsibility Report, General Mills
Corporate action → societal advocacy

Kroger:

Zero food waste by 2025

Eliminate hunger in communities
Lots of standards & scrutiny

- Sustainable sourcing
- ISO: Food waste, environmental labelling
- GRI: Climate change, clean water, gender equality
- SAI: Sustainable agriculture, human rights, animal care
- Marine Stewardship Council: Small-scale farmer well-being & justice
- Fairtrade International: Sustainable agriculture, human rights, animal care
Linking investment returns

Chicago’s $7 billion investment portfolio

Improve risk-adjusted returns based on:

- Climate change
- Worker rights
- Gender
- Racial equity

Kurt Summers, Chicago City Treasurer

“Chicago Treasurer Summers, Ald. Arena Introduce Groundbreaking Environmental, Social and Governance Investing Legislation”, Press Release, Office of the City Treasurer, March 1, 2018
Transforming the global food system

- Circular economy
- Empowered consumers
- Supply chain governance
- Reassessing risk & investment decisions
- Sustainable capital
“The global economy is unsustainable”

“...capital markets do not incorporate companies’ full social & environmental costs.”

$650 billion assets under management

Euan Munro, Chief Executive, Aviva Investors in: A Roadmap for Sustainable Capital Markets: How can the UN SDGs harness the global capital markets? US$
“ESG” principles

**ENVIRONMENTAL (E)**
- climate change
- greenhouse gas (GHG) emissions
- resource depletion, including water
  - waste and pollution
- deforestation

**SOCIAL (S)**
- working conditions, including slavery and child labour
- local communities, including indigenous communities
- conflict
- health and safety
- employee relations and diversity

**GOVERNANCE (G)**
- executive pay
- bribery and corruption
- political lobbying and donations
- board diversity and structure
- tax strategy

Principles for Responsible Investing (PRI)
Sustainable exchanges

- 76 stock exchanges adhere to ESG transparency
For now... only **10%** of investment managers include climate change into asset allocation strategies
Transforming the global food system

- Circular economy
- Empowered consumers
- Sustainable capital
- Supply chain governance

Assessing & pricing true costs
Safe, abundant food supply...
...but what’s your perspective?

“super food”

“job creator”

“thirsty crop”

“water justice”

Californiaavocado.com; The Guardian; Amnesty International; DanWatch
New accounting

- **Prices / profits** insufficient to cover social & environmental impacts

- **By-products, include:**
  - Diet-related chronic diseases
  - Resource depletion
  - Food waste

- Assigning “value”... changes behaviour
Taking a lifecycle view

"Micro beads create a lifecycle issue for our organization"

• Risk to water eco-systems & “sustainable seafood”
• Banning micro beads in private label cosmetics
Valuing waste

- Embracing principles of the circular economy
- Managing water, milk & plastic as cycles, not linear supply chains
➢ Assess **policies** that hold back transparency & responsible practices: e.g., subsidies

➢ **Attain gender parity:** e.g., on boards

➢ **Ensure data comparability** of supply chain metrics: build trust

➢ **Empower consumers**

➢ **Supply chain**...

➢ **Circular economy**

➢ **Sustainable capital**

➢ Include financial sector in the **dialogue**: bring “food waste” to their tables
“Food waste is a **by-product** of an increasingly unsustainable global food system.

Reducing waste is a **catalyst** to help transform the food system – good for people, the planet & profits.”

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*Thank-you...*

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