Parallel Session B: Food Security with Social Equity and Justice

Eastin Grand Hotel Sathorn
Bangkok, Thailand
Parallel Session B: Food Security with Social Equity and Justice

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LEAVE NO ONE BEHIND
A Simplified Food Systems Model

**Systems**
- Natural systems
- Human systems
- Food system

**Drivers**
- Demographics & development
- Consumption
- Technology
- Markets
- Climate & environment
- Policy & geopolitics

**Supporting Services**
- e.g. logistics, finance, communication, research and technology, education

**Core Activities**
- Producing
- Processing
- Retailing
- Consuming
- Storing
- Disposing

**Institutional Environment**
- e.g. laws and regulations, standards, norms, informal rules, organisations

**Feedback**

**Food System Outcomes**
- Economic & social well-being
- Food & nutrition security
- Environmental sustainability
Highlighting trade-offs along development patterns

Win-win situations may be possible but in many instances **conflicting objectives will have to be addressed.** A sustainable and resilient future leaving no one behind requires **enduring some costs.**

<table>
<thead>
<tr>
<th>Selected (potentially) conflicting objectives</th>
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<tr>
<td><strong>Internalizing social and environmental costs</strong></td>
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<tr>
<td>Achieving affordable healthy diets and food security</td>
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<td><strong>Increasing agrifood output</strong></td>
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<td>Reducing agrifood GHG emissions</td>
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<td><strong>Adopting sustainable lower yields practices</strong></td>
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<td>Minimizing land use expansion</td>
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<td><strong>Increasing employment</strong></td>
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<td>Increasing wages</td>
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<td><strong>Innovating through automation technologies</strong></td>
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<td>Increasing employment</td>
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<td><strong>Increasing economic diversification</strong></td>
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<td>Ensuring foreign currency from commodity exports</td>
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<td><strong>Increasing food availability</strong></td>
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<td>Using biomass for renewable energy</td>
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<td><strong>Funding social protection schemes</strong></td>
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<td>Funding public infrastructure and R&amp;D</td>
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<td><strong>Achieving food security</strong></td>
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<td>Pursuing food safety</td>
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<td><strong>Minimizing production costs</strong></td>
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<td>Minimizing food waste and losses</td>
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Volume & value of cassava Thai and Vietnam starch and dried chips

Thai Imports of cassava (roots and chips) from Cambodia and Lao PDR by volume and value
Cassava expansion
Understand power dynamics in food security – opportunities for co-design for sustainable intensification of mixed farming systems
Agriculture
Nutrition
Environment

NEXUS

- Food environment and consumer behavior
- Multifunctional landscapes
- Climate action
- Agrobiodiversity
- Digital inclusion
- Improving crops
- Gender inclusion
Thank you!
Wastegetble - Circular Urban Farming
Business Model:
Food Security with Social Equity and Justices

Presented by Bangkok Rooftop FARMING
SE : Social Enterprise
PAIN POINTS:

Bangkok Food Waste -3500 tons/day

BMA Waste Management Spending
- 13,000 millions Baht
Foster Circular Economy: Embrace circular economy principles by utilizing food waste to enrich soil, cultivating organic vegetables, and closing the loop of resource utilization.

Promote Education and Awareness: Serve as a learning platform for agriculture, environment, health, and food, raising awareness about sustainable practices and inspiring a new generation of eco-conscious individuals.

01 Mission
We convert food waste to compost.

02 Mission
We optimize space for urban farming.

03 Mission
We offer safe food for urban people.
COMPANY OVERVIEW

We provide comprehensive solutions in a “Close The Loop” Model

In 3 years, we can reduce Food waste 274 tons.
01 Farm design
- 50 sq. meter space
- Green Logistical Management
- Enabling environment for urban farming for rooftop

02 Food waste composting
- Nutrient recycling from food waste management
- Knowledge of diverse organic fertilization processes

03 Green farm management
- Optimal water usage
- Crop management for maximum production
- Ecological multi-cropping

04 Market from Origin
- Education for urban consumers on zero carbon emission food systems (eat food from where it’s grown)
SOCIAL AND ENVIRONMENTAL IMPACT

- Take advantage of empty spaces.
- Build local food security by offering safe, affordable and healthy food where it is lacking.
- Foster local economies by designing circular urban farm micro-businesses.
- Try to close loops of food waste (e.g., composting and improved separation of plastic waste).
- Improve the livelihoods of the people in urban areas.
- Reduce Food mile from producers to consumers.
CIRCULAR URBAN FARMING TESTIMONY

20 Small farms, 1 School, 2 department stores, 1 Condo and 2 hotels in Bangkok
Food Waste and Climate Change

- Improve livelihoods in urban areas.

Diagram showing the environmental impact of food waste, including carbon dioxide (CO₂) and methane (CH₄) emissions. The diagram also illustrates the loss of energy, money, water, and labor due to food waste.
Circular Urban Farming and Climate Change

Food Waste Iceberg

What we can and can’t see

Hundreds of thousands - or even millions - of tonnes of food wasted/year

0.6 tonnes of CO₂e emitted per tonne of food landfilled**

$30/tonne in waste disposal costs*

Over $600 spent per household on wasted food every year

Wasted water

Soil and water quality impacts

Land use and land-use change

Packaging waste

Biodiversity impacts

Energy use

Increased price of food

Wasted opportunity to nourish people

Whole-of-lifecycle emissions - not just disposal emissions

Missed chance to create valuable products and regenerate te taiao

* The landfill levy for class 1 landfills to rise to $60/tonne in 2024

** For class 1 landfills with gas capture
New green jobs in the Circular Value Chain

1. Create new jobs for food waste collectors
2. Create new jobs for food waste composters
3. Create new products out of food waste (e.g., fertilizer) and train new urban agri-entrepreneurs
4. Introduce new products to consumers and foster direct farm-consumer market channels

Improve the livelihoods of the people in urban areas.
TRIPLE BOTTOMLINE
SOCIAL AND ENVIRONMENTAL IMPACT

1. Demand-Supply Community Participation
2. Urban Food Waste management trend
3. Access to full system of agricultural education for urban middle-income people
4. Social Innovation in awareness raising on food safety and food contamination

Environment

1. Food Waste Reduction
2. Increase Plastic Recycling Viability
3. Increase access of urban low to middle incomers to affordable food
4. Carbon sequestration (keeping carbon out of air and in soil) through building up organic material from composted food waste

Community

1. New job creation- urban farmers/Food Waste Composter
2. New Zero food mile markets
3. 40% of cost reduction on waste management
4. Reduction of plastic production using new petrochemicals through plastic recycling

Economics
Thank you!