

Mekong Environmental  
Resilience Week

14 September 2023

# 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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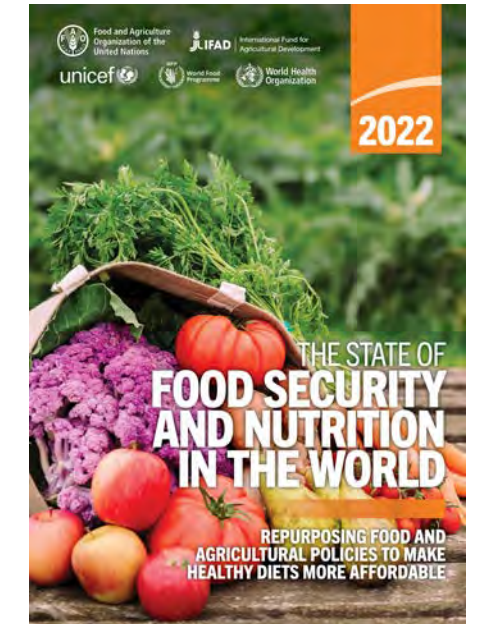
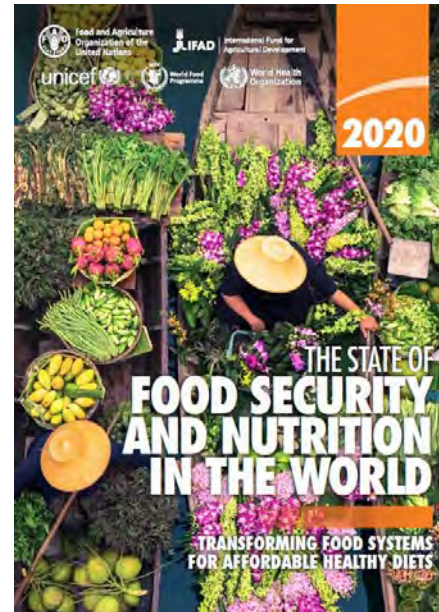


**Mr Suriyan Vichitlekarn**  
Executive Director, Mekong Institute

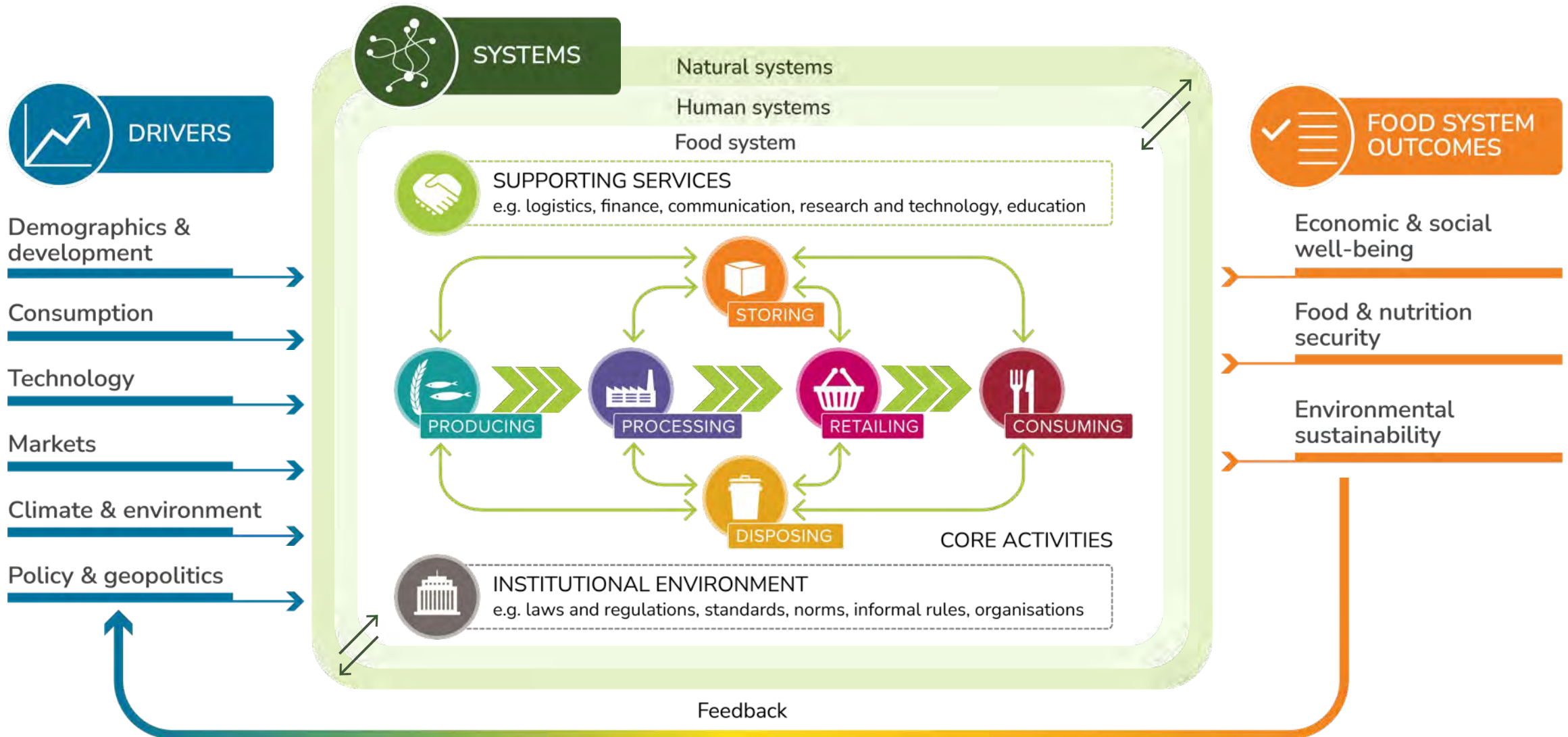


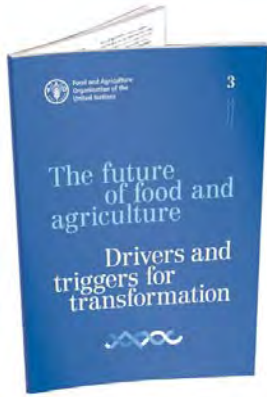


**LEAVE  
NO ONE  
BEHIND**



# A Simplified Food Systems Model





# 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**.

Selected (potentially) conflicting objectives	
Internalizing social and environmental costs	Achieving affordable healthy diets and food security
Increasing agrifood output	Reducing agrifood GHG emissions
Adopting sustainable lower yields practices	Minimizing land use expansion
Increasing employment	Increasing wages
Innovating through automation technologies	Increasing employment
Increasing economic diversification	Ensuring foreign currency from commodity exports
Increasing food availability	Using biomass for renewable energy
Funding social protection schemes	Funding public infrastructure and R&D
Achieving food security	Pursuing food safety
Minimizing production costs	Minimizing food waste and losses

# The Alliance of Biodiversity International and CIAT

Soytavanh Mienmany, PhD

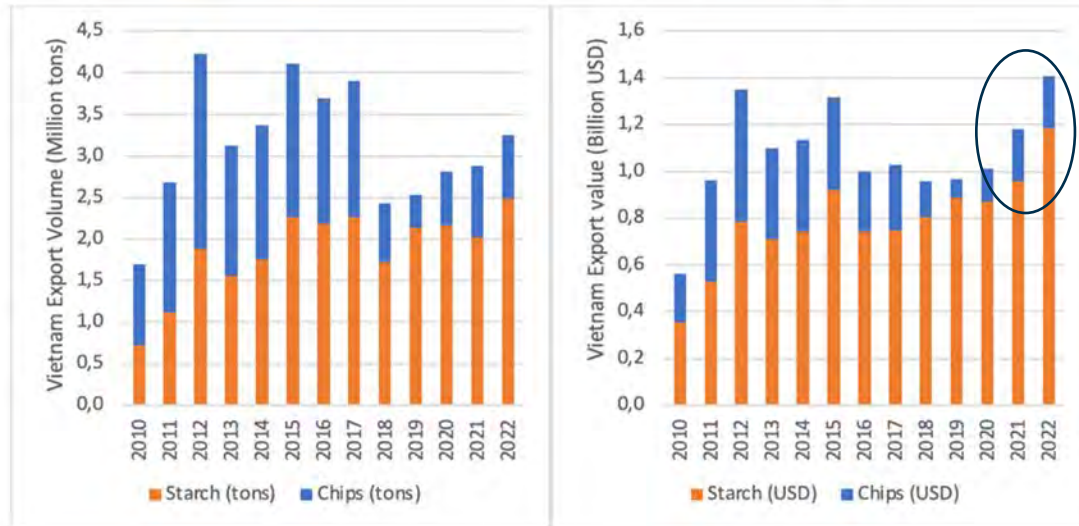
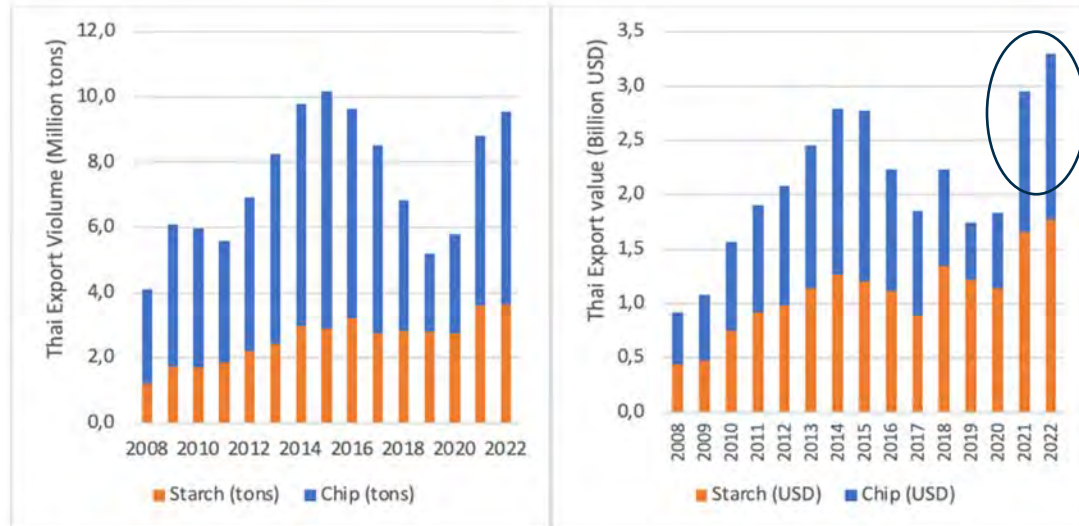
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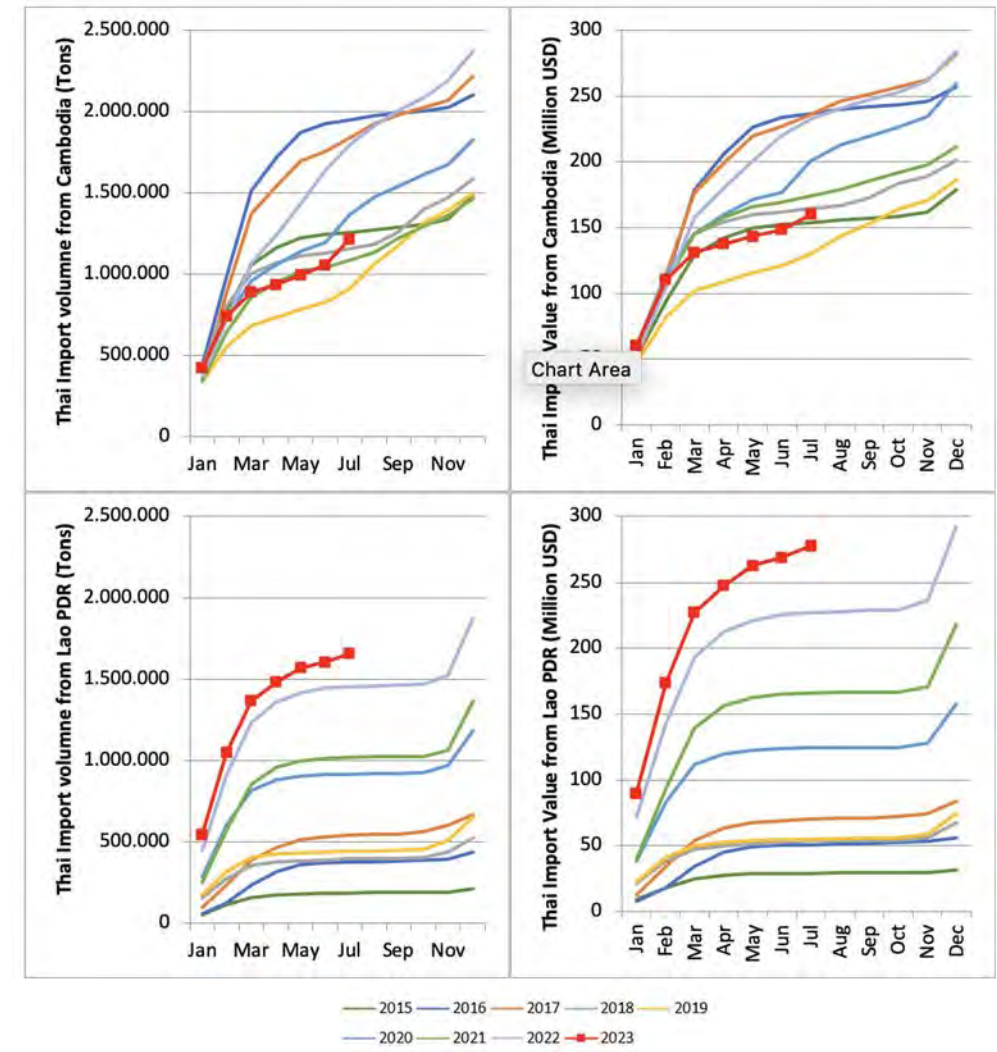
Mekong Environmental Resilience Week

Bangkok, 14 Sep 2023

## 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

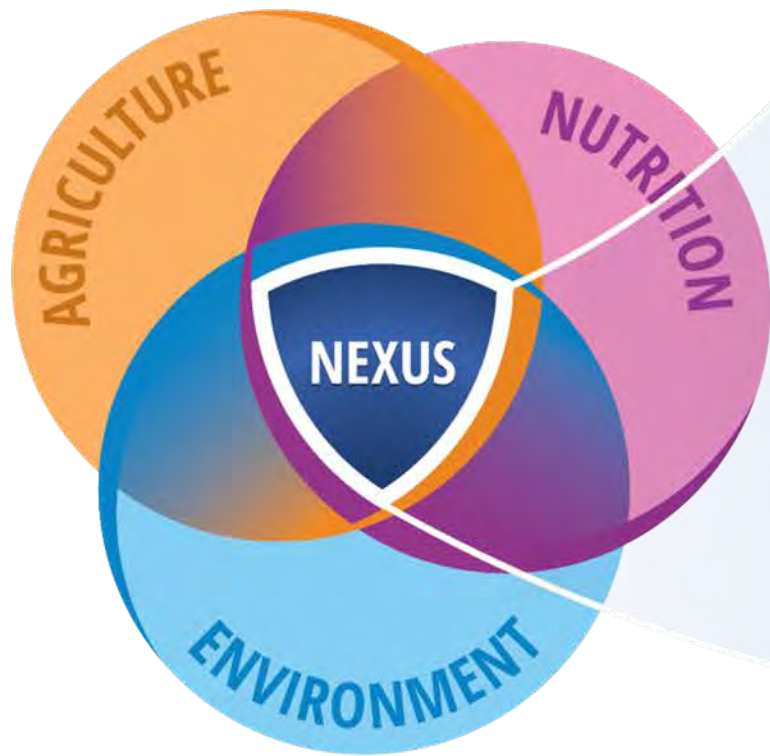


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# Understand power dynamics in food security – opportunities for co-design for sustainable intensification of mixed farming systems





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

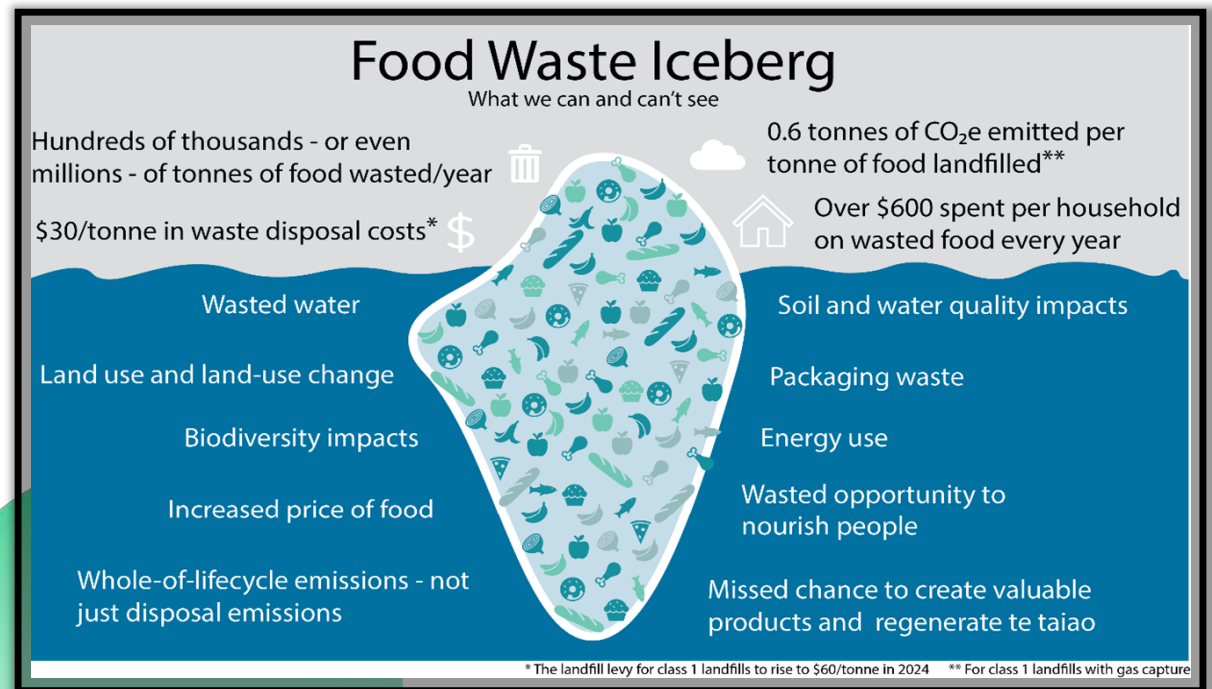


# PAIN POINTS:

**Bangkok Food Waste -3500 tons/day**

**BMA Waste Management Spending**

**- 13,000 millions Baht**



# COMPANY MISSION

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.





# OUR PROCESS



## 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.



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).



Build local food security by offering safe, affordable and healthy food where it is lacking.



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

**ผลกระทบ จาก ขยะอาหาร**

**ปรากฏการณ์เรือนกระจก**

**CARBON DIOXIDE CO<sub>2</sub>**

**METHANE CH<sub>4</sub>**

**บ่อฝังกลบขยะมูลฝอย**  
จาก ฟาร์ม สวน ครัว  
ร้านอาหาร ตลาด

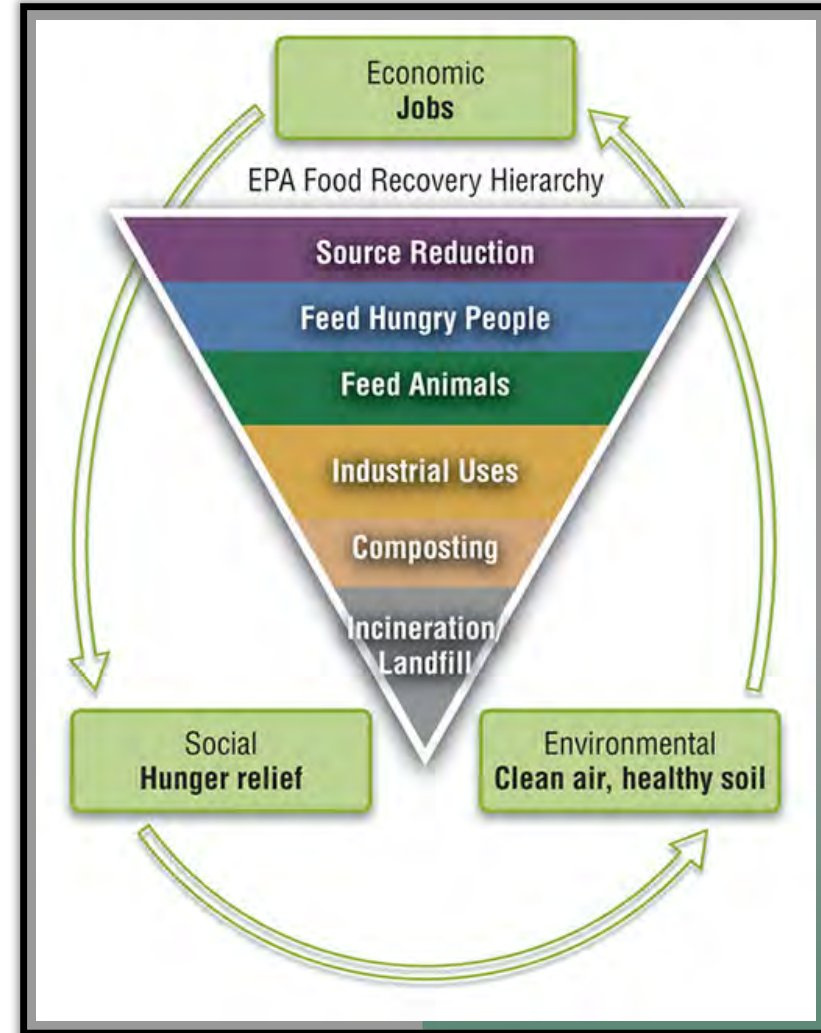
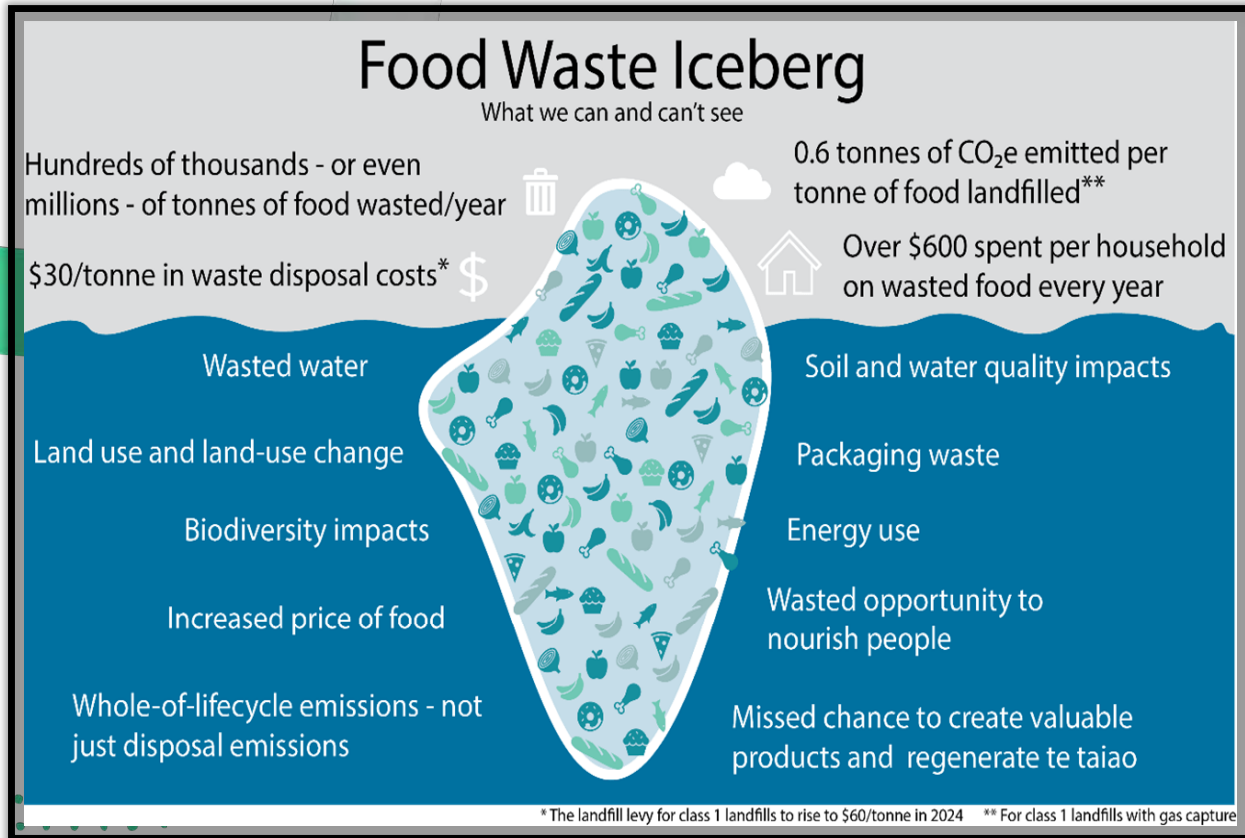
**ก๊าซเรือนกระจกสะสมในบรรยากาศของโลก และกักความร้อนไว้ ทำให้อุณหภูมิเฉลี่ยของโลกสูงขึ้น**

**ENERGY MONEY WATER LABOUR**

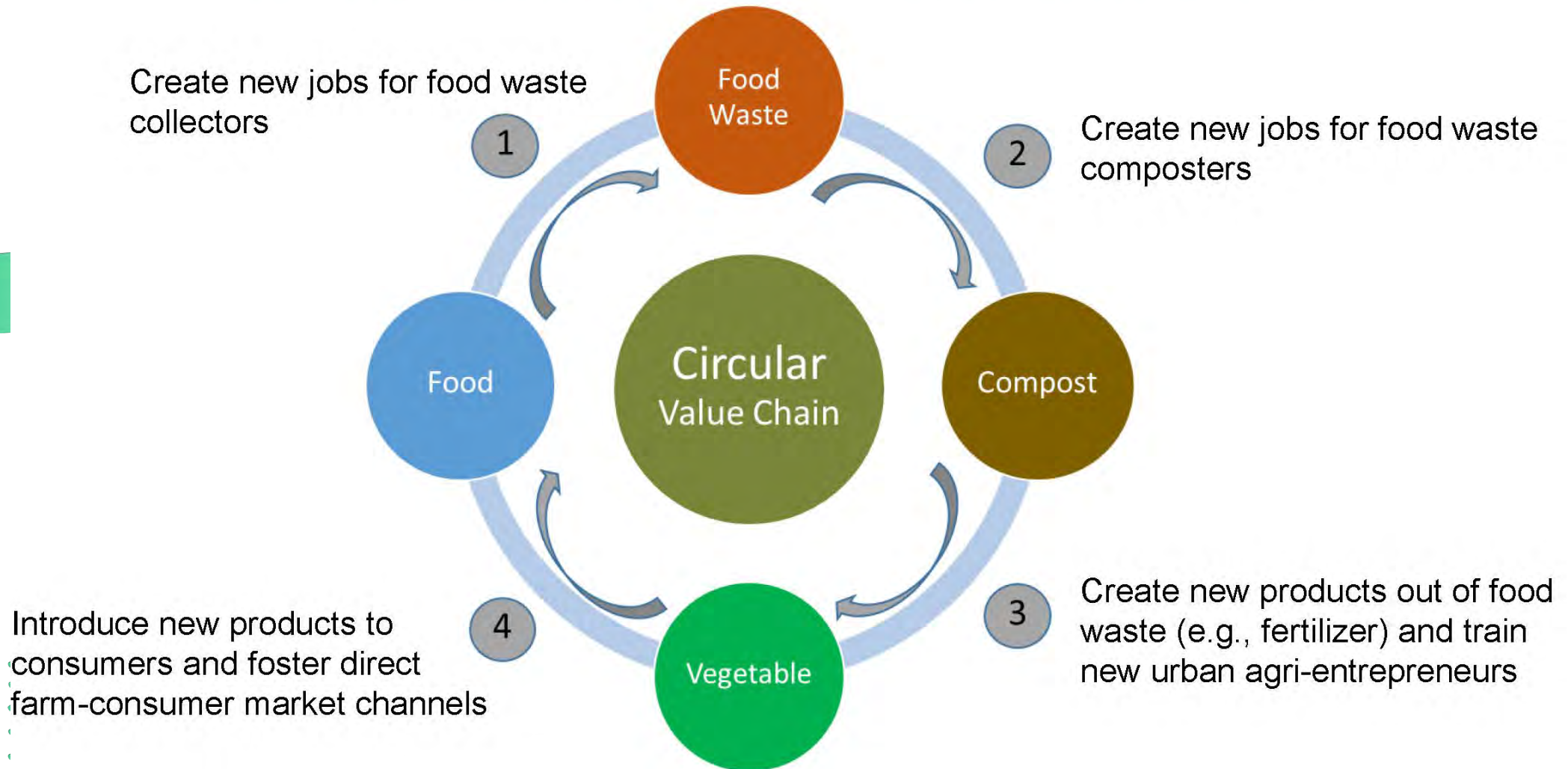
**สิ้นเปลือง พลังงาน งบประมาณ น้ำ และแรงงาน ในการผลิตอาหาร ที่เราทิ้งเป็นขยะ**

**จุลินทรีย์ที่ไม่ใช้อากาศจะสร้างก๊าซมีเทน (CH<sub>4</sub>) ตอนย่อยขยะอาหาร ซึ่งเป็นก๊าซเรือนกระจกที่มีศักยภาพในการทำให้โลกร้อนถึง 28 เท่า เมื่อเทียบกับก๊าซคาร์บอนไดออกไซด์ (CO<sub>2</sub>)**

# Circular Urban Farming and Climate Change



# New green jobs in the Circular Value Chain



# 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

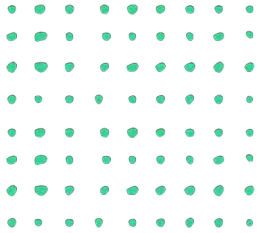
Community

Environment

Economics

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

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



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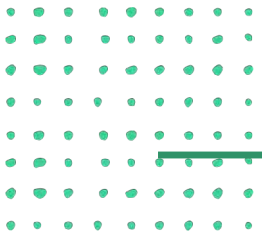
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Thank you!

