Food E-commerce and Delivery Intermediaries: A Case of Chinese Taipei (CT)

Yi-Khim Tan

Association of Input-Output Studies

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E-Commerce in CT Before Covid-19

- E-commerce and logistic service industry are fast developing with good profitability.

Unit: Million NTD

Industry		Retailers	E-Commerce	Stock & Delivery Services
Representive Firms		7-11, PX Mart, Carrefour, Sogo Depart...	Momo, Pchome...	Chuan-Tai, Kerry T.J.
Numbers of Absered samples		15	7	27
Annual Sales	Average	51,585	22,079	9,256
	Median	26,206	6,507	6,011
	Maxmun	244,888	92,732	37,168
	Minmun	14,344	1,479	2,723
	S.D.	60,784	30,462	9,278
Annual growth rate of Sales	Average	4.6%	14.8%	8.8%
	Median	2.2%	16.2%	7.1%
	Maxmun	23.4%	32.4%	33.7%
	Minmun	-4.7%	-3.8%	-2.7%
	S.D.	7.2%	13.2%	8.9%
rate of Net Profit before taxed	Average	3.4%	-14.2%	5.2%
	Median	2.4%	1.0%	3.5%
	Maxmun	23.4%	32.4%	33.7%
	Minmun	1.0%	-129.7%	0.4%
	S.D.	2.7%	53.6%	4.2%

Data Resource：Commom Health Magazine, V.672, 2019

Marketing Routes of Fresh Agri-products and Food

● From Farm to Table
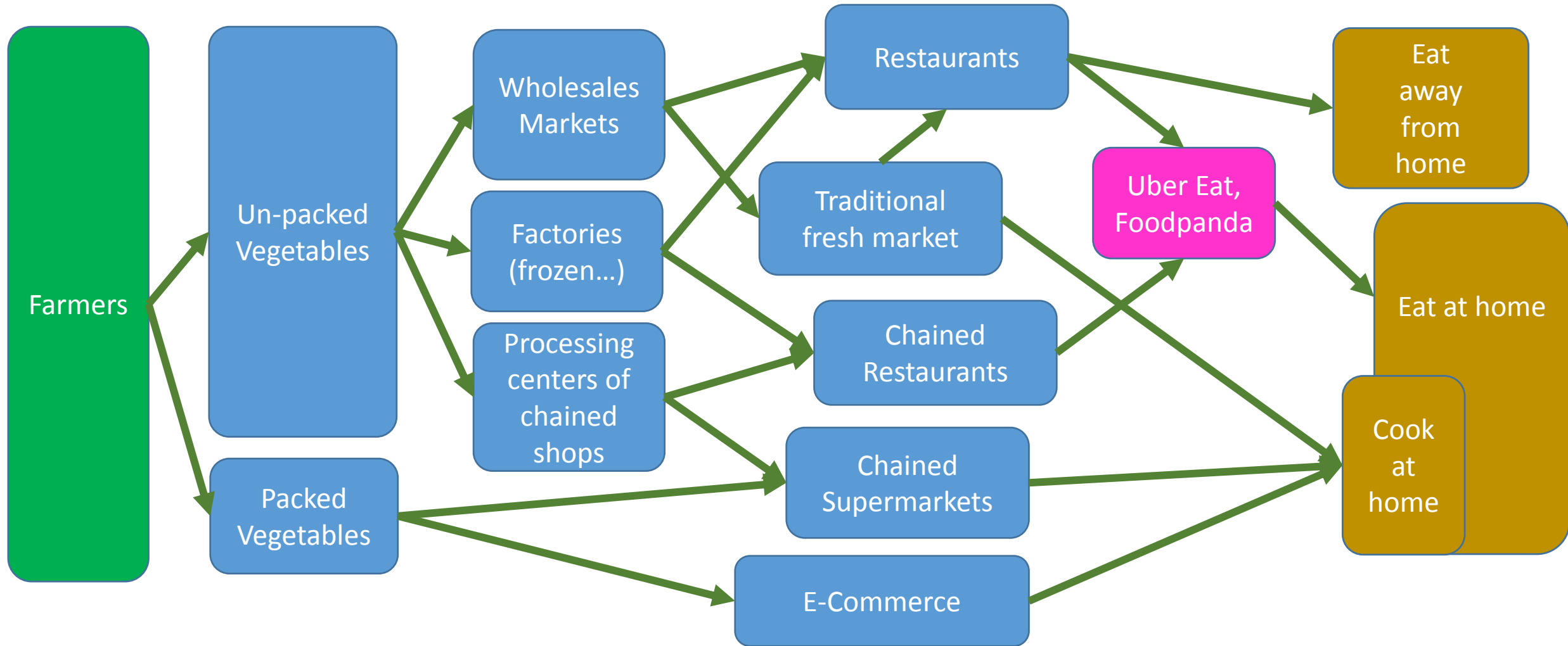
Covid-19 in CT and Worldwide

● The Pandemic in CT is relatively mild, but in the recent month, the real shock came.

by 25 Jun 2021	**Economy CT**	Worldwide
New Cases	**76**	437,764
Total Cases	**14,465**	180,361,382
Deaths	**610**	3,908,254
Vaccine Doses Administered	**1,835,225**	2,815,287,682
Population	**23,859,275**	7,875,223,655
Infection Rate %	**0.061%**	**2.290%**
Vaccine Coverage %	**7.7%**	**35.7%**

Covid-19 Curve in CT

- Significant impact started from middle of May, 2021.
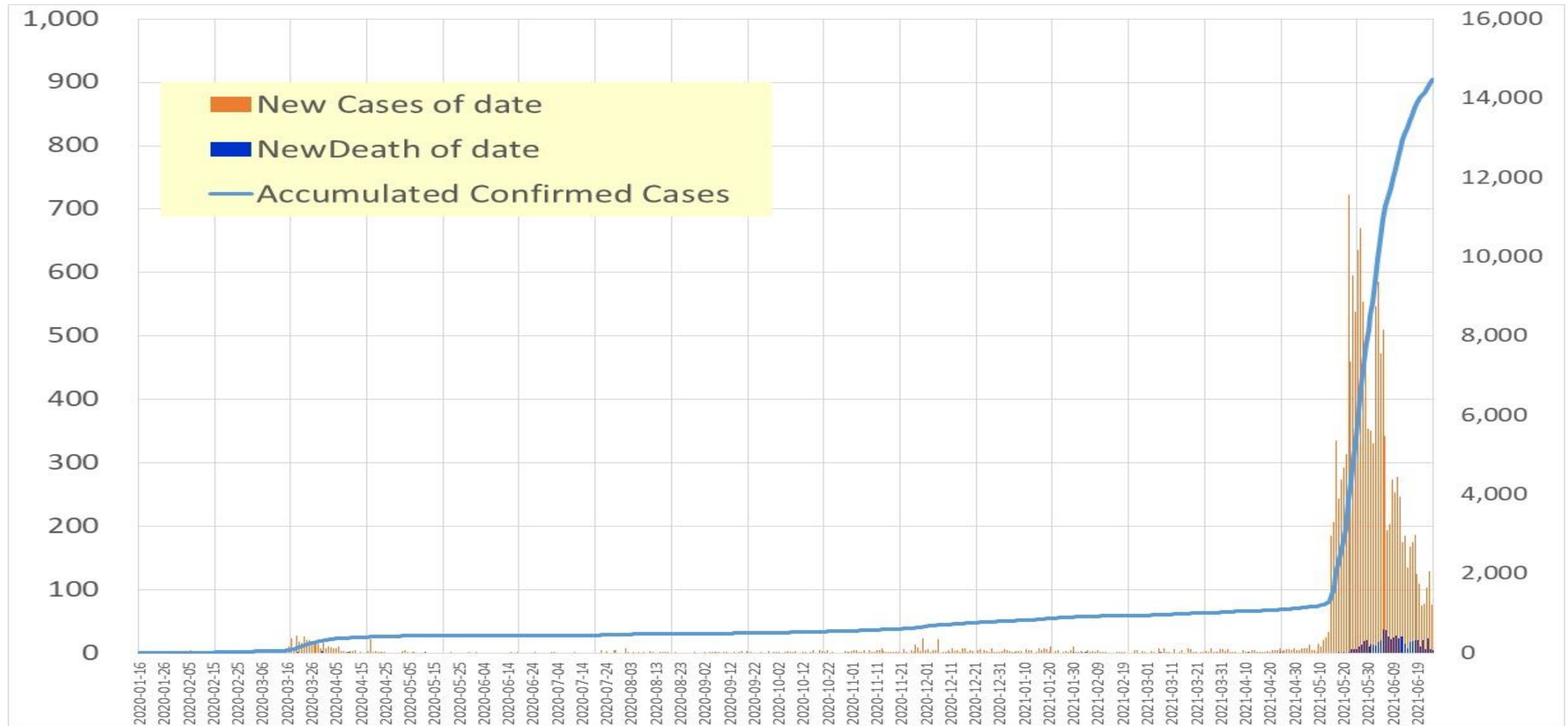
Under Alert Level 3
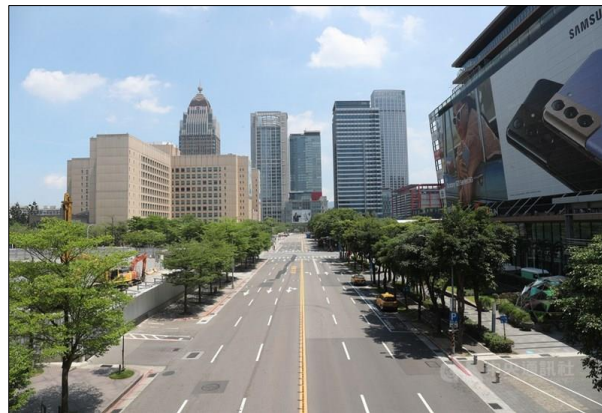
Study & work From Home
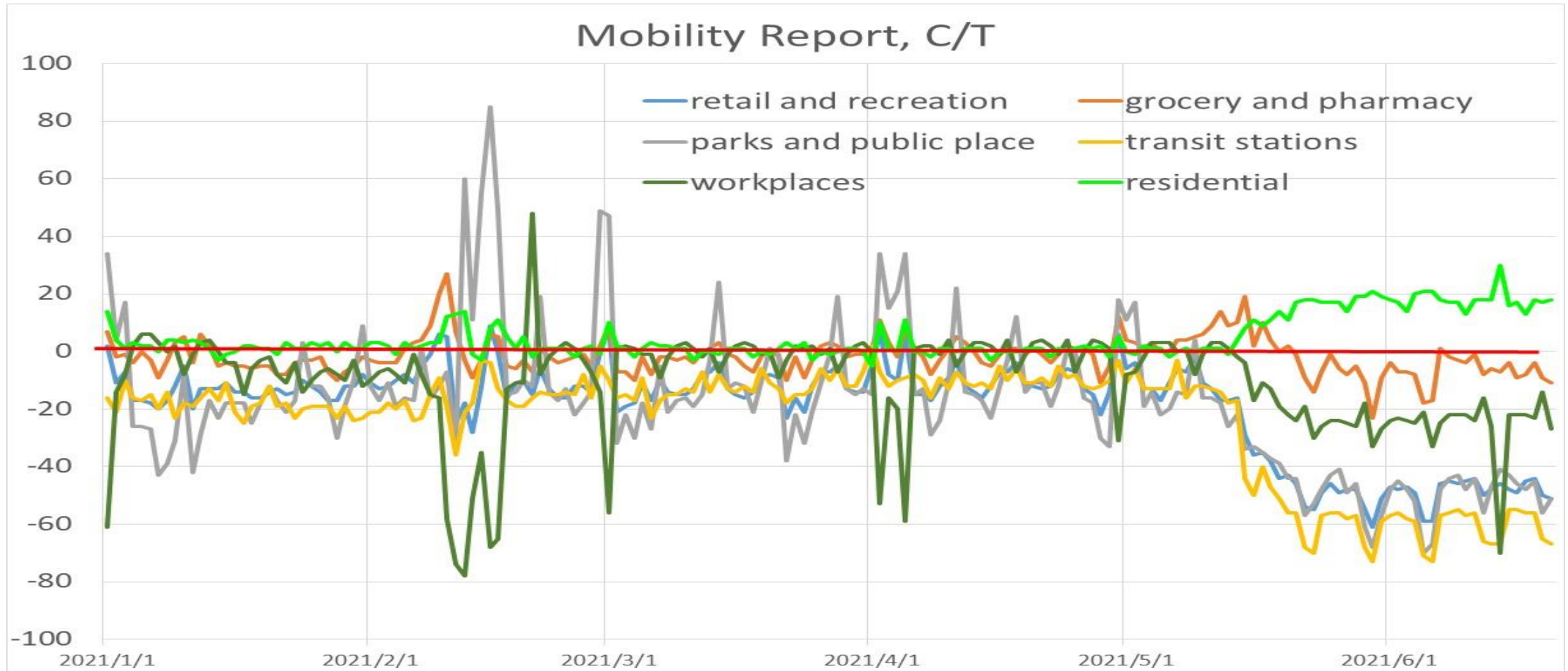
**Shops closed,
No cars on roads**

No eating in restaurants

**Register before come into
supermarkets or any shop**

Google mobility Statistics in CT

- Residential + 20%, Retailers -50%.

Mobility Report, C/T

legend: retail and recreation, grocery and pharmacy, parks and public place, transit stations, workplaces, residential

Quick Responses: Vegetable Boxes

- Delivery to home directly.
- Various Suppliers: E-commerce firms, supermarkets, food material suppliers, farmers...
- Good sales from the very beginning of the Pandemic

Limitations and Challenges

● Delivery houses' over-capacity resulted in late delivery and expired vegetable (FLW).
● Consumers complained: "This is not vegetable box but vegetable coffin."
● Delivery house ceased to accept more cargos and vegetables discarded in farm (FLW).

- **Packing & Delivery houses over capacity.**
- **Late-delivery & expired vegetable.**
- **Undelivered Vegetables discarded in farm.**

Increasing Opportunities

- Additional Packing capacity switched from restaurants and sight-seeing farms：
  Famous restaurants/recreational farms promote vegetable boxes with their brands.
- Additional delivery capacity switching from taxis and Ubers.
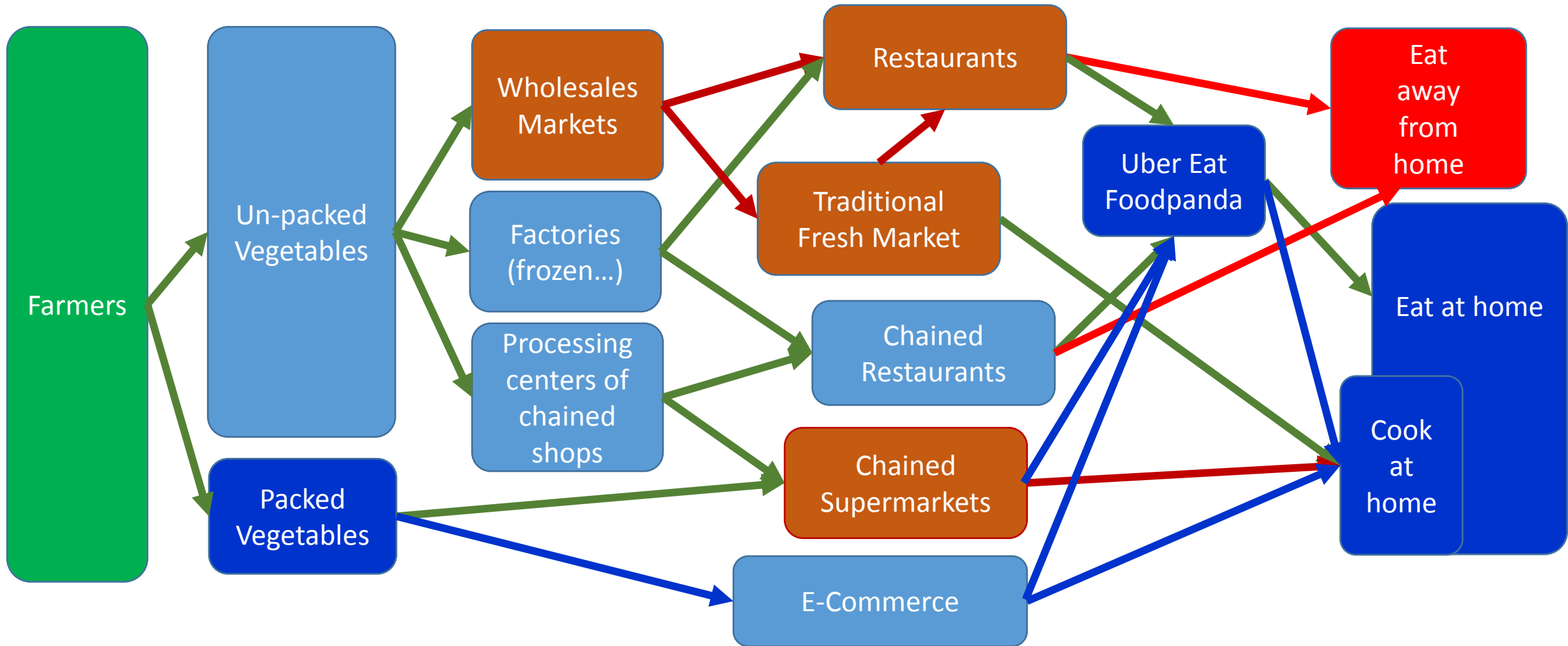- UBER EAT & Foodpanda are coming to help.

Marketing Routes Change during the Pandemic

→ Increase → Decrease → Decrease a lot

Farmers

Un-packed Vegetables

Packed Vegetables

Wholesales Markets

Factories (frozen…)

Processing centers of chained shops

Restaurants

Traditional Fresh Market

Chained Restaurants

Chained Supermarkets

E-Commerce

Uber Eat Foodpanda

Eat away from home

Eat at home

Cook at home

2021/6/30

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Issues of e-commerce during Covid-19

Issue on Capacity Arrangement

- Packing house & delivery intermediaries.
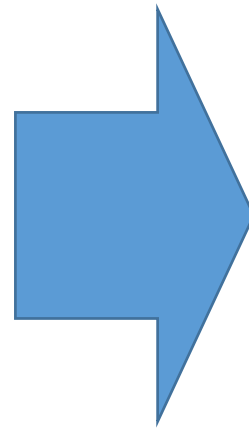
Issue on Food Safety

- Standards for ensuring food quality & safety.

1. Increasing Capacity with Efficiency

● Set up common standards for containers/baskets/boxes.

2. Food Safety & Resiliency of Supply Chain

- Food safety is persistence, over-quality is not necessary.
- HACCP: Hazards and risks should be classified to optimal overall cost.
- Adapt concept RPNs of FMEA to classify hazard and risk of food system.
- Create "Standard in particular period", Set up a Certificate for communication.
- Suitable regulations make more resilient capacity from diversity.

What is FMEA? Failure Mode and Effects Analysis

- Define failure mode.
- Define analysis methods and solution.
- Set up RPNs for priority of quality budget.

Risk Priority Number (RPN)

$$RPN = Severity * Occurrence * Detection$$

Ex.
(1) Small quantity production, metal contamination can be detected by eyes.
(2) Short time delivery allow loosening temperature restriction.

3. Pick-in-shop might be a Solution.

- In CT, density of Convenience Store is very high. (second to Korea)
- Almost nobody at home to wait for home-delivery.
- Home to CVS shops on foot is usually within 5 minutes.
- Customers per day is around 500-1,000 persons, won't wait for a long queue.

| Convenience Store	CT	Japan	Korea	Thailand
Shops	11,429	56,520	34,376	15,872
Population('000 persons)	23,570	125,360	51,250	66,484
Area(km^2)	36,193	377,972	100,210	513,115
Persons/Shop	2,062	2,218	1,491	4,189
Area(km^2)/Shop	3.167	6.687	2.915	32.328
Shops Desity Ranking	2	3	1	4

4. Connecting with Food Banks

- To reduce food loss and wastes (FLW)
- CT has developed a very efficient food bank system.
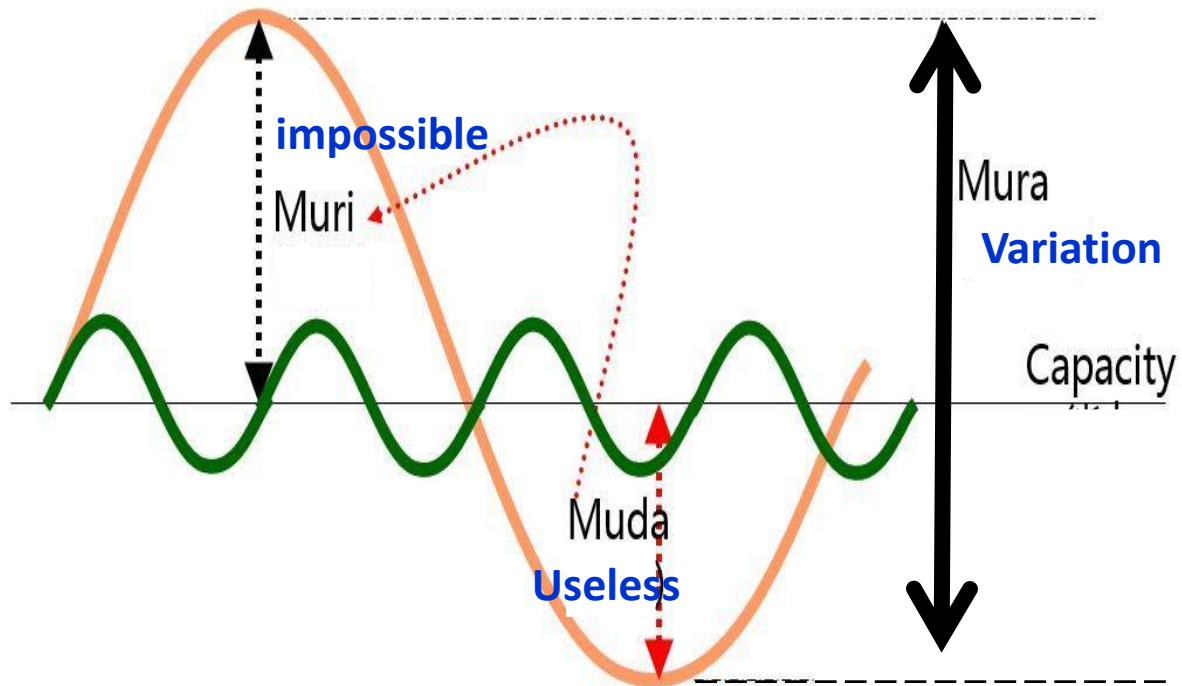
Audrey Tang
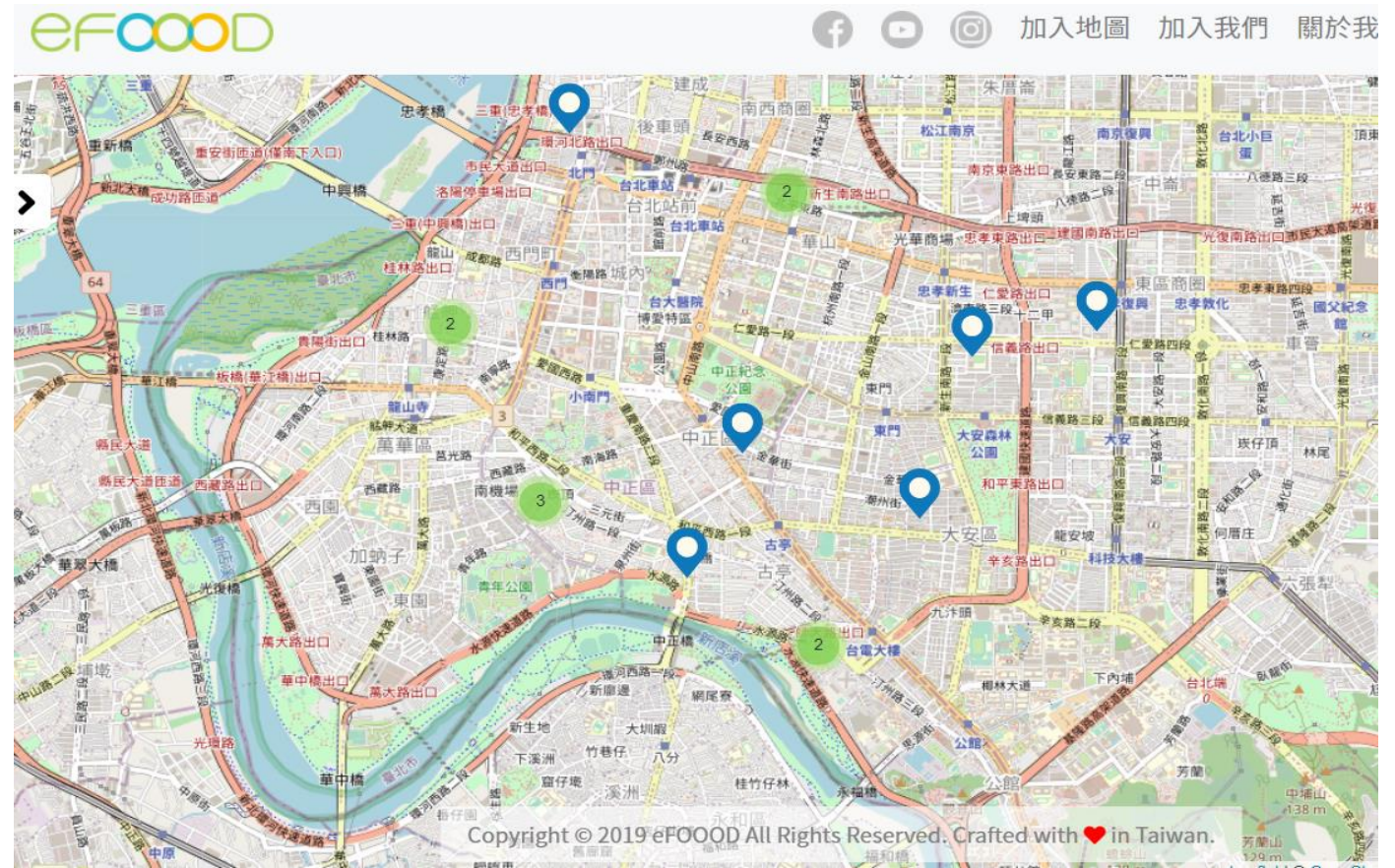
5. Promoting Responsible Consumption

● Planned/scheduled purchase to narrow variation of demand quantity.
● Acceptance of Suboptimal vegetables & fruits (ugly food).

• **Help to level production to reduce wastes**

impossible

Muri

Mura
Variation

Capacity

Muda
Useless

• **More acceptance of suboptimal agri-products.**

Thank You