

APEC Workshop on Food Security

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A Cold Chain Proposal for Food Losses ~ Learning from the Past and Present of Japan ~



Presenter : Mr. Naoji **KATO**
Executive Vice President
Nichirei Foods Inc.

Nichirei Corporation (Holding Company) Group Statement : **Networking “Good Taste” and “Freshness”**



**Nichirei Foods
Inc.**
Processed Food
Business



**Nichirei
Logistics Group
Inc.**
Cold Logistics



**Nichirei
Fresh Inc.**
Agricultural
Aquaculture
Products



**Nichirei
Biosciences Inc.**
Bio Science
Business



**Nichirei
Proserve Inc.**
General
Administration


Established in 1942

Head Office Location Tsukiji Tokyo, Japan

Net Sales \$5.5 billion (@ JPY 85/\$)

(FY2011 ended March 2012)



Company	Nichirei Logistics Group Inc.	
Business	Refrigerated Warehousing and Transportation	
Network	Japan 80 locations 1,380 thousand cubic meters	
And	Europe 9 locations 500 thousand cubic meters(Frozen)	
Storage capacity	China 3 locations 3 thousand cubic meters(Frozen)	
Revenue (F/Y2011)	1,648 million USD	
Market Share	No.1 in Japan and No.5 in the World	

Company	Nichirei Foods Inc.	
Business	Manufacturing and Selling of Frozen Food Retort-Pouch Food, Wellness Food and Acerola Fruits Ingredients.	
Network Abroad	<div>  Japan  Thailand  Vietnam  China </div> <div>  Australia  Brazil  USA  Netherland </div>	
Subsidiary	19 companies	
Revenue (F/Y2011)	2,116 million USD	
Market Share	No.1 in Frozen food Market in Japan(Source:Fuji Keizai 2010)	

- Rapid Growth of World Population and ASEAN Countries

- World 2011: 7 billion 2050: 9 billion
- ASEAN 2010: 600 million 2050: 750 million

Source: Census and Daiwa Souken

“Is this sustainable for the World?”

- Starving and Malnourished people

- World : 900 million people are starving
- ASEAN: 17% of Children suffering malnutrition

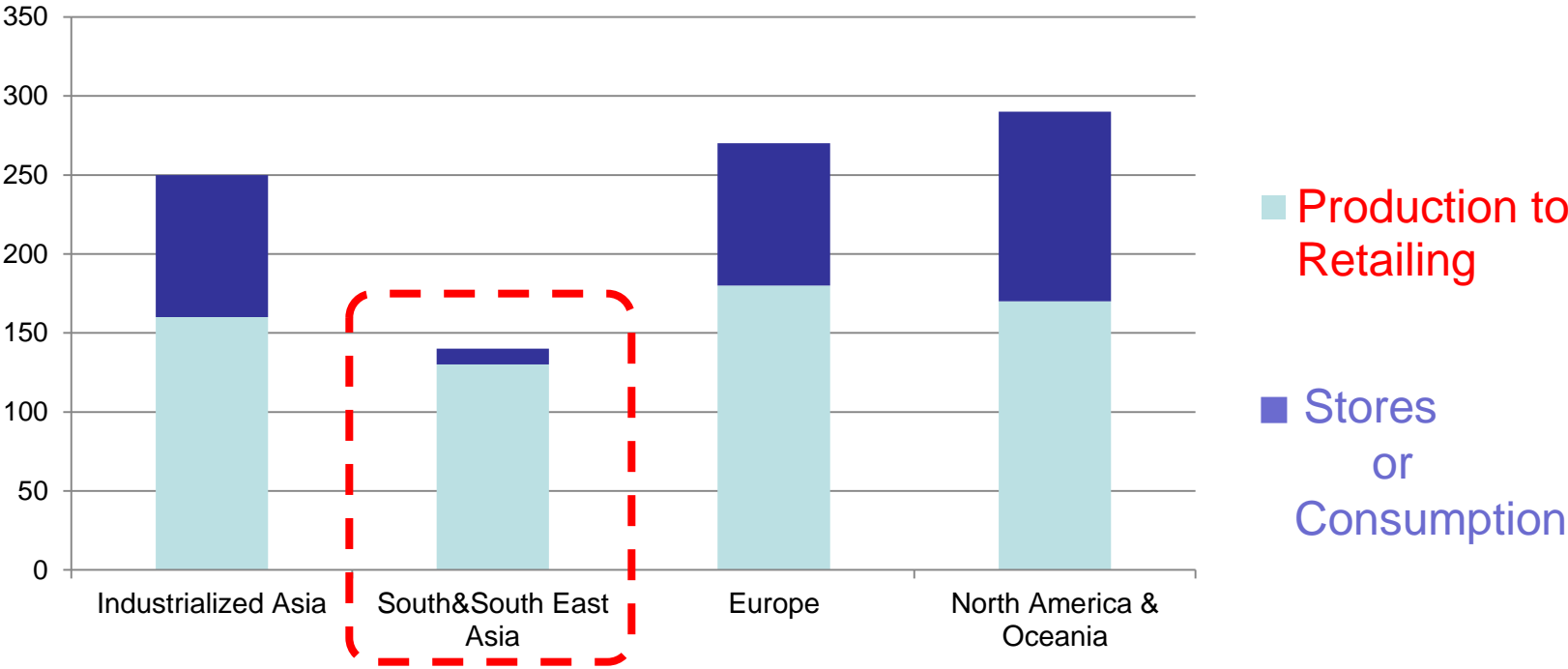
- Food Losses • Waste

- About 1.3 billion tons a year, 1/3 of total food production in the world
- Largest for fruits & vegetables (Around 20% at Producing Level)
- Substantial gaps in knowledge throughout the food chain
- Reduction as an important option to increase food availability
- Emerging economies : Upstream of the supply chain (at Producer level)
- Developed economies : Downstream of the supply chain (at consumer level)

Food Loss Amount by Region

	ASEAN and Africa	North America and Europe
Food Waste Amount Kg/Capita (Year)	120kg per capita 14% of total production amount Mainly Lost at Production to Retailing	280kg per capita 34% of total production amount Lost at Stores or Consumption

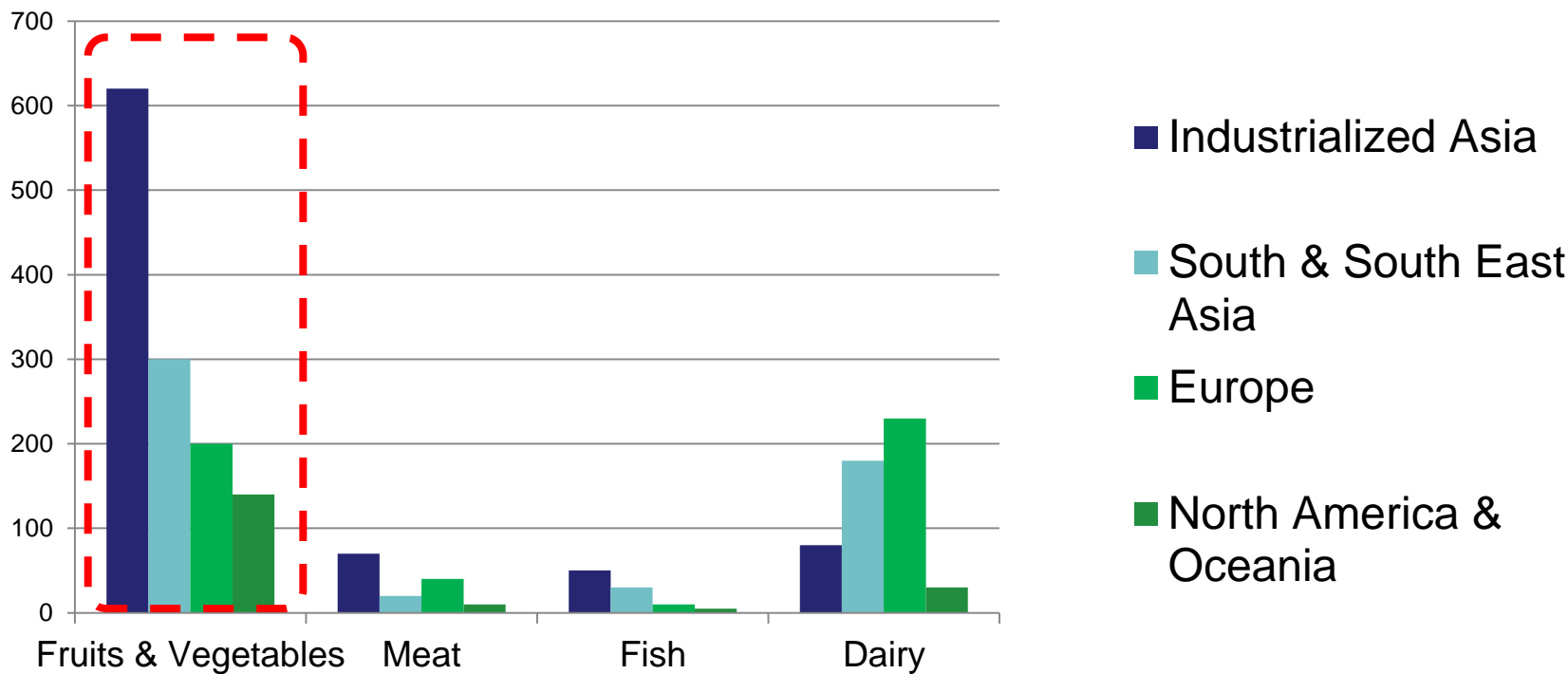
Amount of Food Loss by Types



Causes of Food Loss by Region

ASEAN and Africa	North America and Europe
Poor storage facilities	Lack of planning for recycling
Lack of refrigeration	Leftovers
Lack of primary processing facilities	Excessively High Quality Standard
Poor transportation	Production system for sorted-out materials
Inadequate market system and facilities	Best-before-dates
Poor packaging	Poor environmental conditions during display

Source: Save Food Congress, Dusseldorf, 16 May 2011





Development of Food Supply Chain in Japan

High Economic Growth - **Food Loss** at Supply-side

Slow Growth - **Food waste** at Demand-side

Logistics

1955

1965

1975

1985

1993

2000

2012

Cold Logistic Network:

Individual Logistics

Joint logistics

Cold Storage: Storing seafood at ports

Distribution centers close to consumers

1960 Liberalization of import of 12 Agri Products

1967 Liberalization of import of pork

1991 Liberalization of Import of Beef

1965 Admonishment of Cold Chain

1977 Law on the Territorial Sea

2010 Law of Food Recycling

Wholesale

Public Wholesale Markets:

Declining by increasing direct trading

Manufacturing

Frozen Processed Food :

Peaking

Declining

1955 Joined GATT

1964 Tokyo Olympic

Retail & Consumers

1957 1st super market (Daiei) in Japan

FY2011: Total Sales 12 trillion JPY

1974 1st CVS in Japan

FY2011: Total sales 9 trillion JPY

1985 3 delivery/day

1971: 1st McDonald's shop in Japan

2011/2: 3286 shops

Period of High Economic Growth — Food Loss at Supply-side

Solution: Public-Private Partnership

- **Public Wholesale Market to Foster Small Farmers**



Protecting small farmers with little bargaining power

Pricing agri-products

Centralizing demand & supply in the region

Localizing of loading in and out of agri-products

- **Cold Storage Facilities**



Preserving domestic and imported agri-goods for a long period.

Preventing food poisonings

- **Facilities of Primary Processing of Agri- Products**



Supporting development of processing food industry.

Balancing of supply-demand

Minimizing post harvest losses

Period of Slow Growth Economy - Food Waste at Demand side

Problem

- **Excessive Production over the demand**
- **Cost of Recycling > Cost of food waste**
- **Best-by date**
 - Mandatory waste of foods even consumable
 - waste by guarantee of freshness of products - coffee, lunch box, cakes
- **Specification set by Sellers**
 - Desired shape of vegetable
 - Too many products variety
 - No use of whole raw material
- **Consumers' Abundant Life-Style**
 - Purchasing more than consumed
 - Remains in buffet, restaurants.
- **Food waste:**
 - Japan- 19million tons
(incl. consumable 5-9 million tons)
 - USA- \$ 16.5 billion (NRDC)

Potential Solution

- **Food Recycling**
 - e.g. Food Bank (Second Harvest)
- **Setting of “Total required calorie x Nutrition Balance” of each Economy**
- **Setting of required amount of food import for each Economy**
- **Compensatory Fund to Food Losses in each Economy** - Mechanism to give monetary penalty for food losses to compensate food producing/exporting Economies
- **Matching Mechanism** - Common platform to share the annual food demand of food-service with farm producers : new 6th industry model

Cold Chain Logistics

○ It enables to expand the area to deliver nutritious food by keeping it under -18°C

In 1965, **Admonishment** by the Ministry of Science and Technology of Japan implemented expansion of **Cold Chain Logistics** in Japan.

Under rapid economic growth, unbalance in taking nutrition was major concerns and Cold Chain Logistics was recommended to increase accessibility to a variety of foods.

⇒ It contributed to the development of Food Service Industry.

⇒ It enabled to minimize usage of pesticide on vegetables and to supply safe food to people.



Imported Amount from Abroad ⇒ Japan

1960

Agriculture Products

7.7 billion USD

Husbandry Products

1.8 billion USD

2010

60 billion USD

15 billion USD



Frozen Food

○ Quick Frozen

⇒ Keeps its quality same as before frozen due to less destruction of food cells

○ Preserving products under -18°C

⇒ Enables to preserve food at high quality for a long period.

⇒ Enables to develop frozen food industry now at \$ 10.0 Billion in Japan

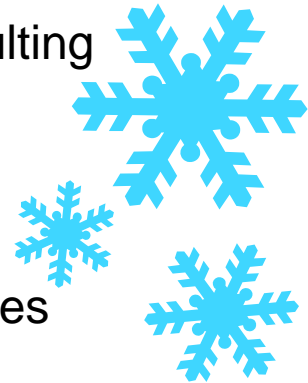
⇒ Enables longer average human life due to a lower salt intake resulting from no need of salt for food preservation

○ Frozen Condition

⇒ Micro Bio Activity is hibernated which is effective to prevent troubles (e.g. food poison)

⇒ Quality of food stays at high level.

⇒ Usage of preservative or chemicals could be substantially curved.



Complete Forward & Backward Supply-Chain Strategy

- Scheme of backward supply-chain built in a long term
- Competitive in Quality Control as 'Pioneer of Acerola'

Breeding Research, Cultivation Training and Pesticide Control

- Acerola raw material business has general versatility, large potential and growing market

(Beverage, Processed Foods, Health Care, Supplement, Cosmetics,)



NICHIREI
Acerola
Quality®

Acerola



A lecture to Co-Growers



1. Emerging Economies:

Cold Infrastructure, Primary Processing, Public Wholesale Market

- Provide a sustainable growth to the farm producers in the Food Supply Chain and a better life to consumers.
- Enable to establish an EcoSystem which can reduce food loss and control supply & demand at stable prices which improve farm producers' income regardless of changes of climate or economy.

2. Developed Economies:

Frozen Processed Food

- Reduce food losses in the supply chains and provide high-nutrition food to make people's life better and happier. Targets anyone, sick or poor can reach the happiness of enjoying food.

Fund for Food Waste

- Establish a system to make monetary compensation to the food waste as penalty so that accumulated funds will be transferred to mainly Emerging Economies which are net food producers/exporters.

Matching System of Supply & Demand

- Create a common platform to share information of annual demand of retailers/food services with farm producers to match supply & demand for avoidance of food loss/ waste- e.g. Nichirei Agri Inc

○ Food Losses is a common problem in the Developed & Emerging Economies

○ Sharing Developed Economies' technology innovated in the past to save food losses in Emerging Economies.

This will minimize Post Harvest Losses and deliver High Quality Food efficiently to people under sustainable growth of economies.

**Developed Economies' technology
to save food loss.**

**Emerging Economies'
Food Loss Problems**

○ **Proposal : Government and Private Partnership**

Government

Infrastructure

- Roads
- Markets
- Energy
(e.g. electricity)

Public Awareness
(e.g. Education)

Private Sector

Cold Logistics

- Refrigerated Transport

Facilities

- Cold Storage
- Frozen Processed Food Plant
- Freezer at Retail Stores

Save Food! Save the World

Thank You for Your Attention!



Presenter : Mr. Naoji KATO

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