Development of National Food Industry as Food Diversification Strategy in Indonesia

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Food Security

The FAO definition of food security

*World Food Summit of 1996:*
Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.
Food Security Aspects and Their Indicators

Food availability
- Quantity
- Quality
- Nutrition adequacy
- Variety
- Safety
- Sustainability of food availability/supply, accessibility and consumption

Accessibility
- Physical, economic and social accessibility
- Compliance to preferences
- Compliance to food habit and culture
- Compliance to belief and religion

Consumption sufficiency
- Intake sufficiency
- Quality of household food processing
- Quality of household sanitation and hygiene
- Quality of drinking water
- Quality of child care
- Active and Healthy life of Individual

Food Security → Role of Food Diversification?

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- Quality
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- Quality of child care
- Active and Healthy life of Individual
Food Security → Role of Food Diversification?

Food diversification is important for food and nutritional security:
- Ensuring dietary diversity and quality,
- Strengthening local food systems, and
- Maintaining environmental sustainability.

Food Diversification → Role of Food Industry?

Food Industry has critical role in developing and operating food business to ensure better and more diversified
- food availability,
- food accessibility and
- food consumption sufficiency.

Better value of diversified food
Food Diversification → Role of Food Industry?

→ Providing better value of foods

Value of Food = \frac{A \times X}{B \times Y}
Food Diversification → Role of Food Industry?

→ Providing better value of foods

Value of Food = A B X Y

Local Source ETC

Sensory Variety Performance
Taste Nutrition Functionality
Size/Calor Y Eco-friendliness
Price Time to prepare

Quality Factor

Safety Factor

Psychological Safety Physical Safety

Value of Food = A B X Y

Local Source ETC

Sensory Variety Performance
Taste Nutrition Functionality
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Price Time to prepare
Food Diversification → Role of Food Industry?

→ Providing better value of foods

- Psychological Safety
  - Cultural
  - Belief
  - Religion

- Halal
- Kosher
- Vegetarian
- Etc

Prerequisite 1

Food Diversification → Role of Food Industry?

→ Providing

- Physical hazards include foreign objects that can be introduced into food during growing, harvest/slaughter, and or processing.
  - rocks (vegetables)
  - bone (animal products), and
  - metal (from processing equipment).

- Biological hazards include bacteria like Salmonella, viruses like Hepatitis, and parasites like those that cause trichinosis.
- Biological hazards pose the most concern to the food industry.

- Chemical hazards: include natural chemicals that may be in a food or chemical agents that we may add to a food (cleaning agents).

Prerequisite 2

Physiological Safety
- Chemicals
- Physicals
- Micro-biologicals
Food Diversification → Role of Food Industry?
→ Providing better value of foods

Value of Food = A + B + Y

Constant, k (Prerequisite factor)

Quality Factor

Local Source, ETC
Sensory, Variety, Performance
Taste, Nutrition, Functionality
Size/Calory, Eco-friendliness
Price, Time to prepare

Psychological Safety, Physiological Safety

K = 0 or K ≥ 1
K = 0.1
Food Diversification → Role of Food Industry?

→ Providing better value of foods

IDR 800/
pack of 70 g

Food Diversification → Role of Food Industry?

→ Providing better value of foods

- safer,
- last longer,
- more diversified/more choices,
- more nutritious
- Etc
- and
- better distribution
- better storage
- (potentially) more affordable

Positive Implication for Food Security

There is a need to develop a supportive National Food Industry
**Food Industry → Scale Classification?**

Law No 9, 2005

- **Big/Large**
  - > 5 B
  - > 100 Workers

- **Medium**
  - IDR 1 B – 5 B
  - 20-99 Workers

- **Small**
  - IDR 200 Mio – 1 B
  - 5-19 Workers

- **Micro**
  - <= IDR 200 Mio
  - 1-4 workers

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**Food Industry → Anatomy of Industry?**

(CBS, 2006)

- **Big/large Business**
  - 489,789

- **Medium Scale Business**

- **Small Scale Business**

- **Micro, Small & Medium Enterprises (M-SMEs) = 48.93 Millions**

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Food Industry → Characteristics of M-SMEs?
(CBS, 2006)

Absorb more employments.

Tilted:
- Contributed to 96% employments
- BUT, contributed to 53% GDP.

85.7 Millions (96.18%)

3.82%

1778.75 T IDR (53.28%)

46.72%

99.9%

85.7 Juta (96.18%)

0.1%
Food Industry → Characteristics of M-SMEs?
(CBS, 2006)

→ 53.57% M-SMEs is in Food and Agri sector
→ Foundation of Food Industry
→ Strong driving force for food diversification

Food Industry → Development of Food Industry?
Focus on M-SMEs → Technology Transfer

M-SMEs
Tech Transfer

Development of Food Industry
**Food Industry → Development of Food Industry?**

Focus on M-SMEs → Technology Transfer

- Tech Transfer
- M-SMEs
- Development of Food Industry

**Food Industry → Development of Food Industry?**

Focus on M-SMEs → Technology Transfer → and More

- Political Will/Policy/Legal Protection
- Marketing
- Financial/Capital
- Training/Nurturing
- Techn Transfer; incl Product/Process

M-SMEs

Development of Food Industry

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Food Industry → Development of Food Industry?
Focus on M-SMEs → Technology Transfer → and More

GOVERNMENT
- Central
- Regional

Encourage
Mutual
Partnerships

University/
R&D

Industry/
M-SMEs

Political Will/
Policy/
Legal Protection

GOV NEED TO INVEST

- Ensure availability of infrastructure, raw material, and processing aids/additives (clean water, ice, "legal" additive, etc)
- Ensure translation of research discoveries to products for the MSMEs
- Ensure generation of additional revenue for education and research missions, reward for inventor
- Ensure access of capital for MSMEs
- Ensure access of Information and expertise for MSMEs
- Ensure protection of intellectual property
  → geographical indication

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Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

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Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

OLEH-OLEH KHAS JAWA TENGAH
- TAPE KETAN MUNTILAN
- CERIMPING MAGELANG
- WAJIK SALAMAN
- GETUK MAGELANG
- GEPLAK YOGYAKARTA
- SALAK PONDOK

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Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

- Beras Cianjur
- Jeruk Garut
- Markisa Makasar
- Asinan Bogor
- Kopi Lampung
- Madu Sumbawa
- Kopi Gayo
- Dodol Garut
- Jenang Kudus
- Bubur Manado
- Talas Bogor
- Dadiah Padang
- Etc
- Etc
- ............

✓ Locally unique (indigenous in nature)
✓ Has been traditionally produced by local SMEs
✓ Need "protection" and input of appropriate technology to improve safety & quality

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Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

Popularizing (and industrializing) this...

✓ Locally unique (indigenous in nature)
✓ Has been traditionally produced by local SMEs
✓ Need "protection" and input of appropriate technology to improve safety & quality

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Driving Force for Food Diversification?
Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

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- Has been traditionally produced by local SMEs
- Need “protection” and input of appropriate technology to improve safety & quality

Reducing/replacing this...

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Driving Force for Food Diversification?

Indonesia is rich in unique regional foods

- Locally unique (Indigenous in nature)
- Has been traditionally produced by local SMEs
- Need “protection” and input of appropriate technology to improve safety & quality

Food Diversification Strategy thru Food Industry Development?

→ Promoting local foods/Ingredients?
  - Research exploration on uniqueness/competitiveness/functionality of local food/ingredients
→ Develop incentive scheme for food industry to develop local food or local ingredients?
→ Develop program/initiative “Support Local”
Food Diversification Strategy thru Food Industry Development?

→ Promoting local foods/Ingredients?
  • Research exploration on uniqueness/competitiveness/functionality of local food/ingredients
→ Develop incentive scheme for food industry to develop local food or local ingredients?
→ Develop program/initiative "Support Local"
→ Strong leadership commitment
→ Invest in “time” → long term commitment
→ Partnership → regional partnership

TERIMAKASIH
THANK YOU
The Potential of Local Resource and Establishing Network Among Agricultural Research Centers on Food Diversification

Bogor, 20 - 21 September 2012

Ministry of Agriculture Republic of Indonesia Agency for Food Security
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   B. Development of National Food Industry as A Strategy for Food Diversification in Indonesia, by Prof. Dr. Purwiyatno Hariyadi - Director of Southeast Asian Food and Agricultural Science and Technology (SEAFAST) Center and lecturer of Food Process Engineering in Bogor Agricultural University.


   D. Establishing of Cooperation and Networking among Agricultural Research Centers in APEC Economies for The Development of Local Source based Food Diversification, by Dr. Katinka Weinberger - Director Centre for Alleviation of Poverty through Sustainable Agriculture (CAPSA).

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F. Food Prices in Indonesia: Determinants of Food Price Variation, by Kiyoshi Taniguchi - The World Bank Jakarta Office

G. Food Diversification Approach to Sustainable Food Security from National Perspective, by Prof. Dr. Masyhuri - Center for World Trade Studies, Gadjah Mada University

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