

CLIMATE CHANGE ADAPTION AND LOCAL FOOD DEVELOPMENT FOR FOOD SOVEREIGNTY IN INDONESIA

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Background

- Indonesia imports rice approximately 1-1,5 million tons per year
- Changes food consumption from various local food to rice due to green revolution
- Food diversification was promoted to overcome the dependence on rice as staple food
- Indonesia has many various native foods especially for underdeveloped/isolated areas

Indonesian threats

- Food scarcity or food insecurity
- Energy scarcity
- Environmental degradation
- Social insecurity (less purchasing power and high food price for poor people)

Local Food Promotion

- Tubers, sago, banana and some cereal crops (mainly corn) is a traditional staple food for most Indonesian people
- Non rice staple food is supported by the protein availability from livestock, fresh water aquatic, and the sea.
- The food is available locally and traditionally grow as culture commodities
- It is not strongly affected by climate change the *el-nino* and *la-nino*,



Food Status

- Food product could not be substituted
- Produced from culture activities
- $\frac{2}{3}$ of food product could be used for cattle
- $\frac{2}{3}$ of food could be converted to energy

Population Growth

Population	Year	Time needed (years)
1 Billion	1884	
2 Billion	1927	51
3 Billion	1960	33
4 Billion	1974	14
5 Billion	1987	13
6 Billion	1999	12
7 Billion	2011	14
8 Billion	2025	15-20
9 Billion	2040-2045	15-20

International food trading for developing countries

- 1960's food surplus
- 1980's food importers
- 1990's 70 % of developing countries depend on food import
- 2010's about 1 Billion of population are poor food and malnutrition
- 2025 food deficit increased about 127 million ton di East and Southeast Asia

Food diversification

- In 1960's population is not prosperous when rice is not consumed
- In 1980's Indonesia started to import rice
- In 1990's the movement of food diversification and local food

Competitive Advantage of Local Food

- Local food healthy consumed by welfare population
- Resistant to *la-nino* and *el-nino* effects
- Conservation plant and fuel energy sources
- It has a competitive advantage with a specific resources (endowment) di the world market

Closing Remark

Social movement for food local development :

- Local food promotion
- Technology development for food diversification
- Strongly support by political will
- Environmental preservation
- It could be developed easily by vulnerability group
- Multi stakeholder integration and community based management for implementation