



Asia-Pacific  
Economic Cooperation



Government of Malaysia

# Food Security and Food Security Planning: Regional and National Perspectives

by

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**APEC Workshop on Enhancing Food Security through  
A Regional Approach and Wide Stakeholder Participation in Plant Biosecurity**

**Concorde Hotel, Shah Alam, Malaysia, 1-3 December 2010**

# OUTLINE:

1. INTRODUCTION
2. FOOD SECURITY: NEW DIMENSIONS, STRATEGIC ARRANGEMENTS AT NATIONAL AND REGIONAL LEVELS
3. FRAMING THE PROBLEM
4. OTHER CONSIDERATIONS
5. CONCLUDING REMARKS

# INTRODUCTION:

- **Purpose:** Provide a **Bird's eye view** of Food Security and Food Security Planning from a **National** (with a Malaysian slant) and **Regional** (with an ASEAN slant) in view of **new dimensions** related to Food Security as a **backdrop for this workshop**
- **Underlying theme:** It is prudent to see things in **proper perspective** and recognize the strategic arrangements and **key dimensions** in Food Security as well as their **interplay/interconnectivity** so as to be able to '**get the basics and balance right**'.
- **Key Take-Home Message:** Food Security considerations has become so **complex, multi-scale and interdependent** that unless we **think through and frame problems well**, the **solutions** we arrive at will always be **half-baked** and/or easily over-taken by events.

**“Food Security** exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”

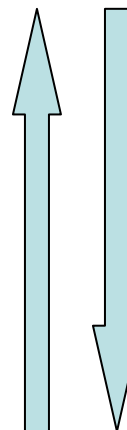
*(Food and Agriculture Organization, U.N.)*

**Traditional Dimensions:**

- Availability
- Accessibility
- Distribution/Stability
- Utilization

**Food Security Levels**

- Global
- Regional
- National (Country)
- Community
- Household
- Individual



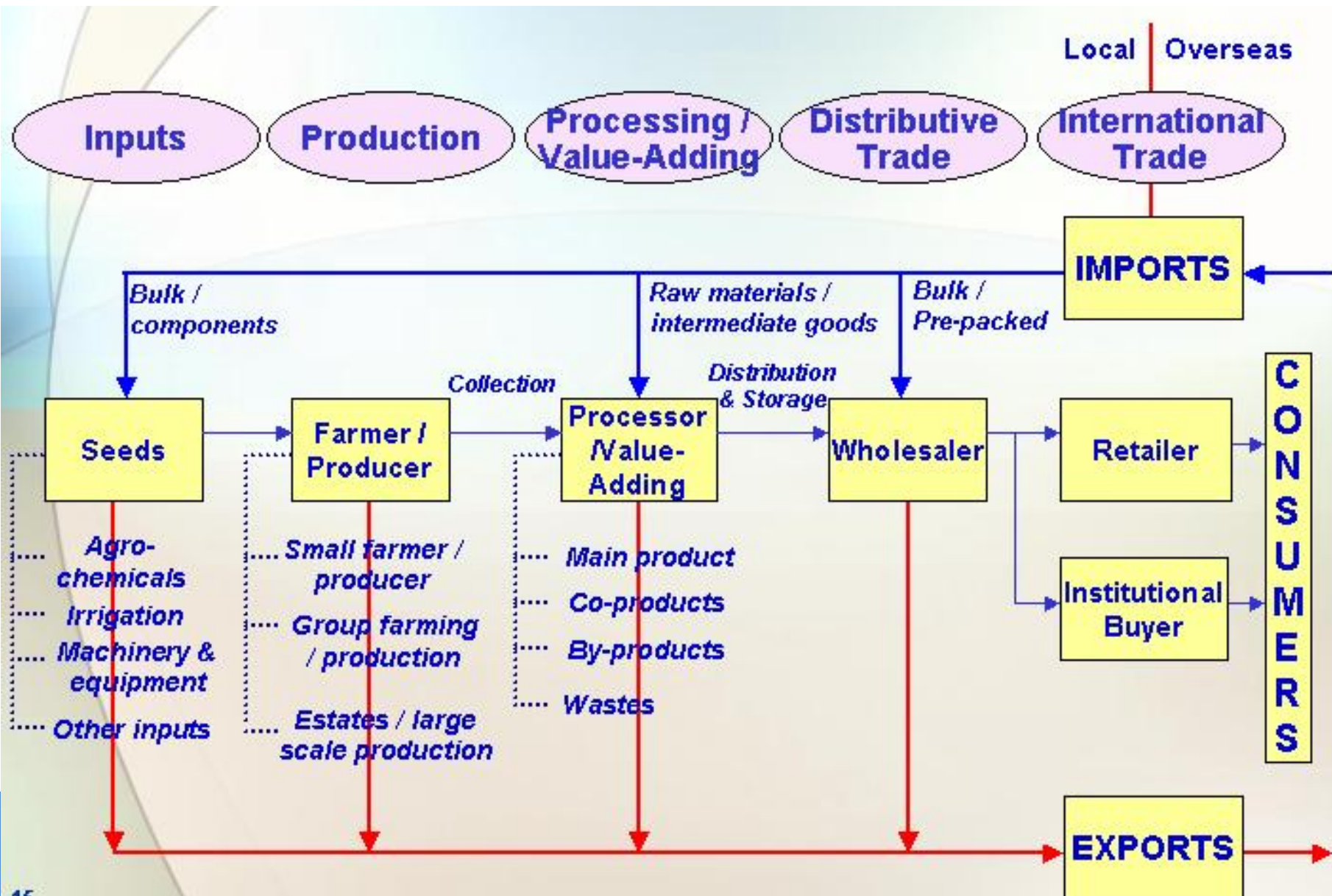
***Strong  
Inter-play  
between  
Levels***

# NEW DIMENSIONS OF FOOD SECURITY

Beyond the 'Traditional' Dimensions of Availability; Accessibility; Distribution; and Utilization – new dimensions have rendered Food Security **more complex, multi-scale, and interconnected.**

- **Human Security** dimension
- Cross-border or **Regional dimension** – collaboration/solutions
- **Pandemic** Preparedness
- **Traceability** and food safety
- **Self-reliance** rather than self-sufficiency
- **Demand management**
- Role of **private sector** – Public-Private Partnership

# Agri-Food Supply Chain – From ‘Seed to Shelf’ : Potential Economic Activities

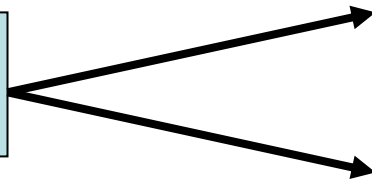


# CLUSTER DEVELOPMENT

**TIER I**



INPUT /  
PRODUCTION /  
OUTPUT



## CURRENT OPPORTUNITIES

- End uses

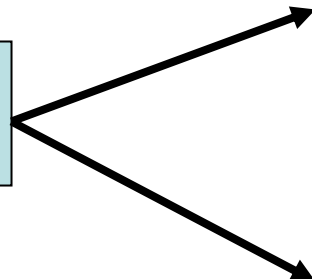
## FUTURE OPPORTUNITIES

- End uses enabled by science & technology innovations

**TIER II**



INTERMEDIATE  
SUPPLIER &  
SUPPORT SERVICE



## CURRENT OPPORTUNITIES

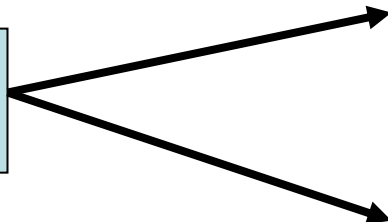
- Inputs
- Machinery & Equipment
- Metal industry
- Industrial Chemicals
- Paper industry
- Printing
- Logistics
- Business Services

## FUTURE OPPORTUNITIES

**TIER III**



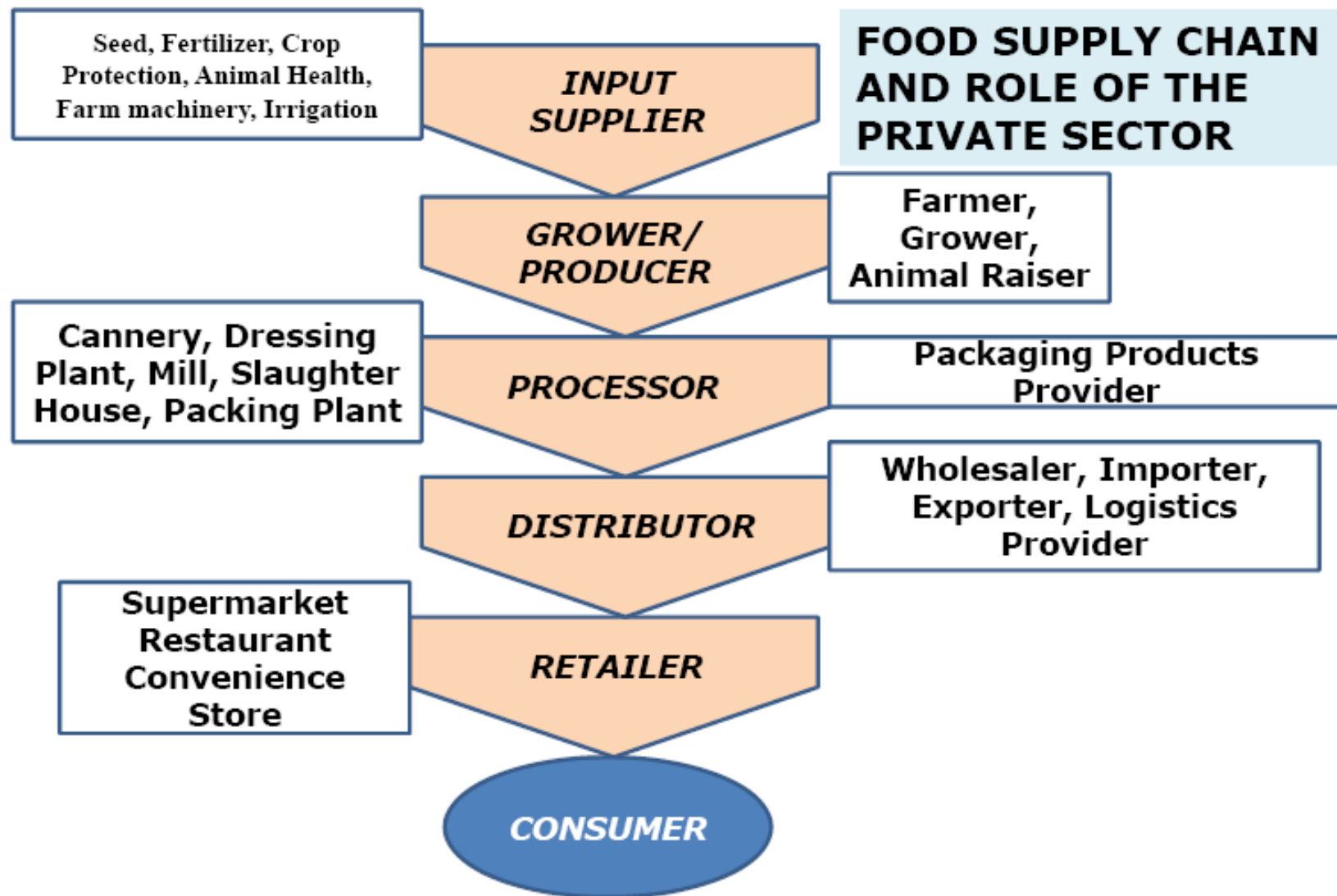
FOUNDATION  
PROVIDERS



## CURRENT OPPORTUNITIES / REQUIREMENTS

- Infrastructure
- Finance
- Human Resource Development
- Technology
- Regulatory Environment

## FUTURE OPPORTUNITIES/ REQUIREMENTS





# FOOD SUPPLY SYSTEM : UK

	Inputs/Agriculture	Primary Processing	Secondary Processing and Distribution	Retail	Consumption
Relationship Power	Small/medium-sized organizations	Private organizations	Own label Brand owners	Four dominant organizations	Marketing-led product development
Energy	Fertilizer production	Refrigeration	Transport and cooking	Refrigeration	Transport and cooking
Resource Usage	Land Labour	Water	Transport infrastructure	Urban Land	Power
Direct Emitted Carbon	Nitrogen and livestock methane		Transport		Landfill
Product Wasted or Lost	5%	5%	2%	10%	33%

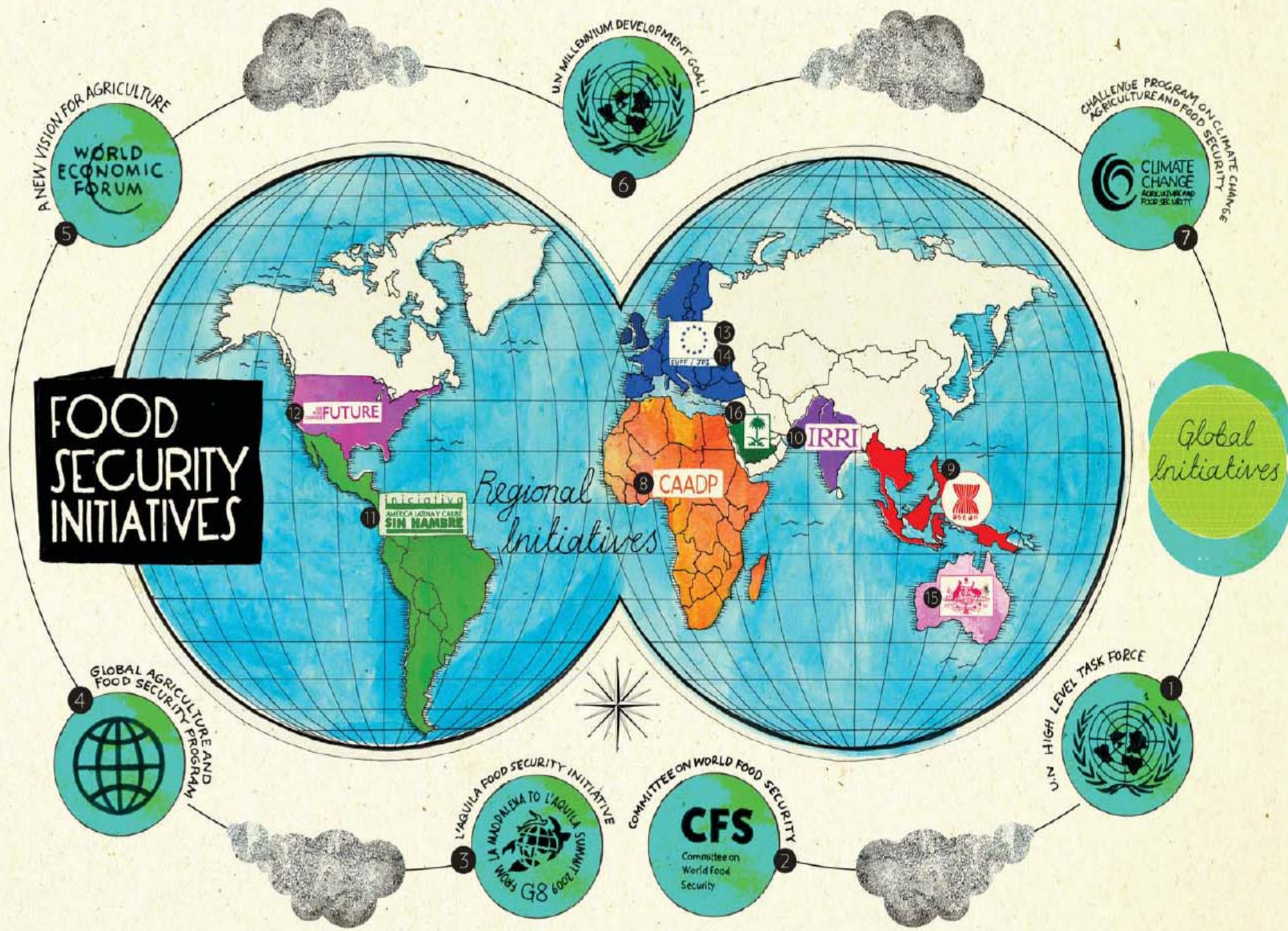


This is an indicative interpretation of the UK supply network. Waste figures based on work undertaken by the Food Process innovation Unit at Cardiff University on behalf of the Food Chain Centre. WRAP estimates have been used for consumer waste figures.

Source : [http://www.wrap.org.uk/wrap\\_corporate/news/food\\_waste\\_set\\_to.html](http://www.wrap.org.uk/wrap_corporate/news/food_waste_set_to.html) (15.10.08).

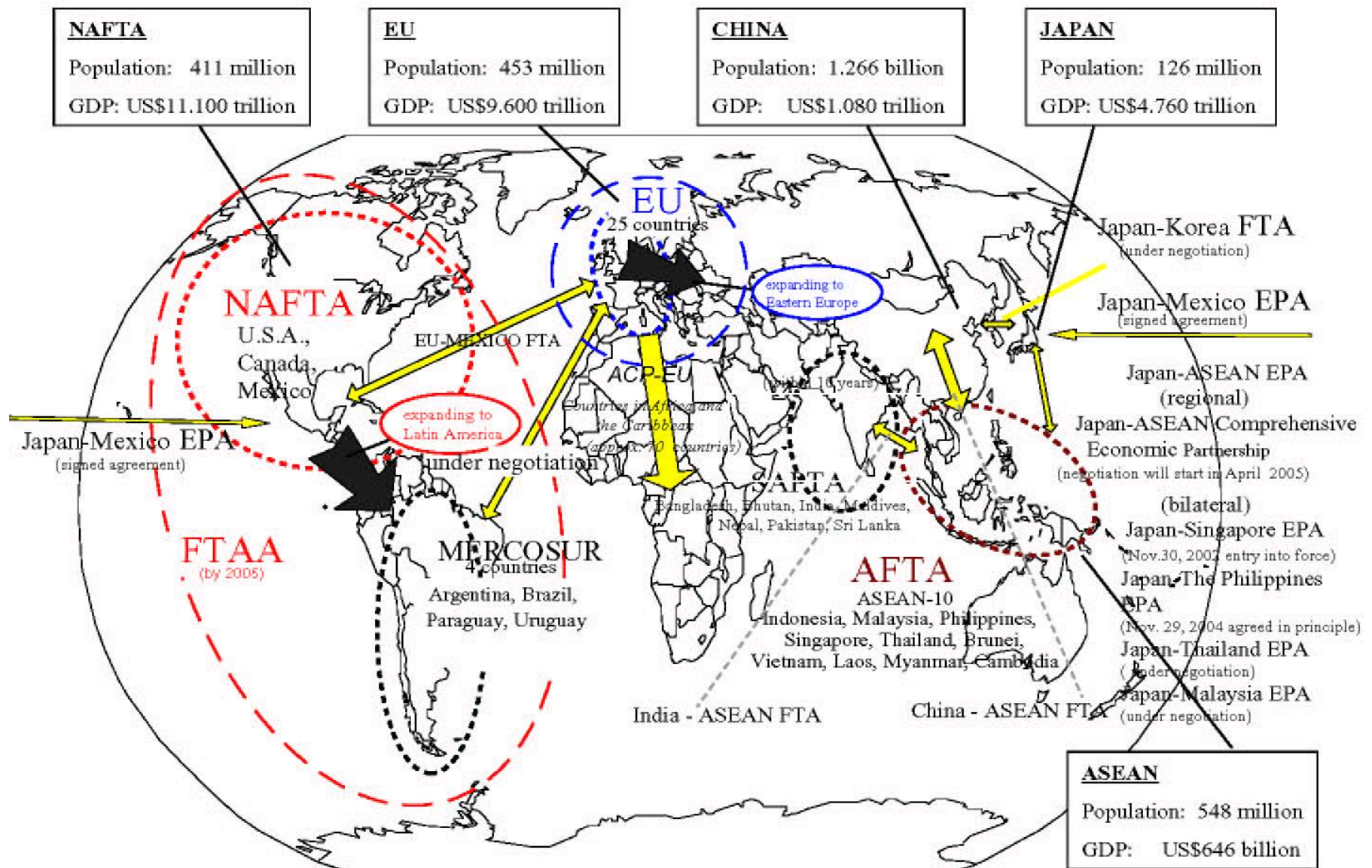
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Follow the numbers to learn more about global and regional food security initiatives





# Main Regional FTAs/EPAs



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# NATIONAL: STRATEGIC APPROACH

Work well for some countries, including Malaysia, by adopting a pragmatic **Strategic Approach** linking:

- **Food Security** (focused on rice – basic staple, ‘political’ crop); and
- **Economic Growth** (growth with redistribution)

at both the ‘macro’ and ‘micro’ levels.

- **Macro-level** : leverage policy control over:
  - Sectoral composition of income growth
  - Food prices - stabilisation
- **Micro-level** : rural development
  - Rural education/HRD – accessible to poor and females
  - Rural clinics – healthcare, family planning
  - Home economics, nutrition education

# STRATEGIC APPROACH TO FOOD SECURITY

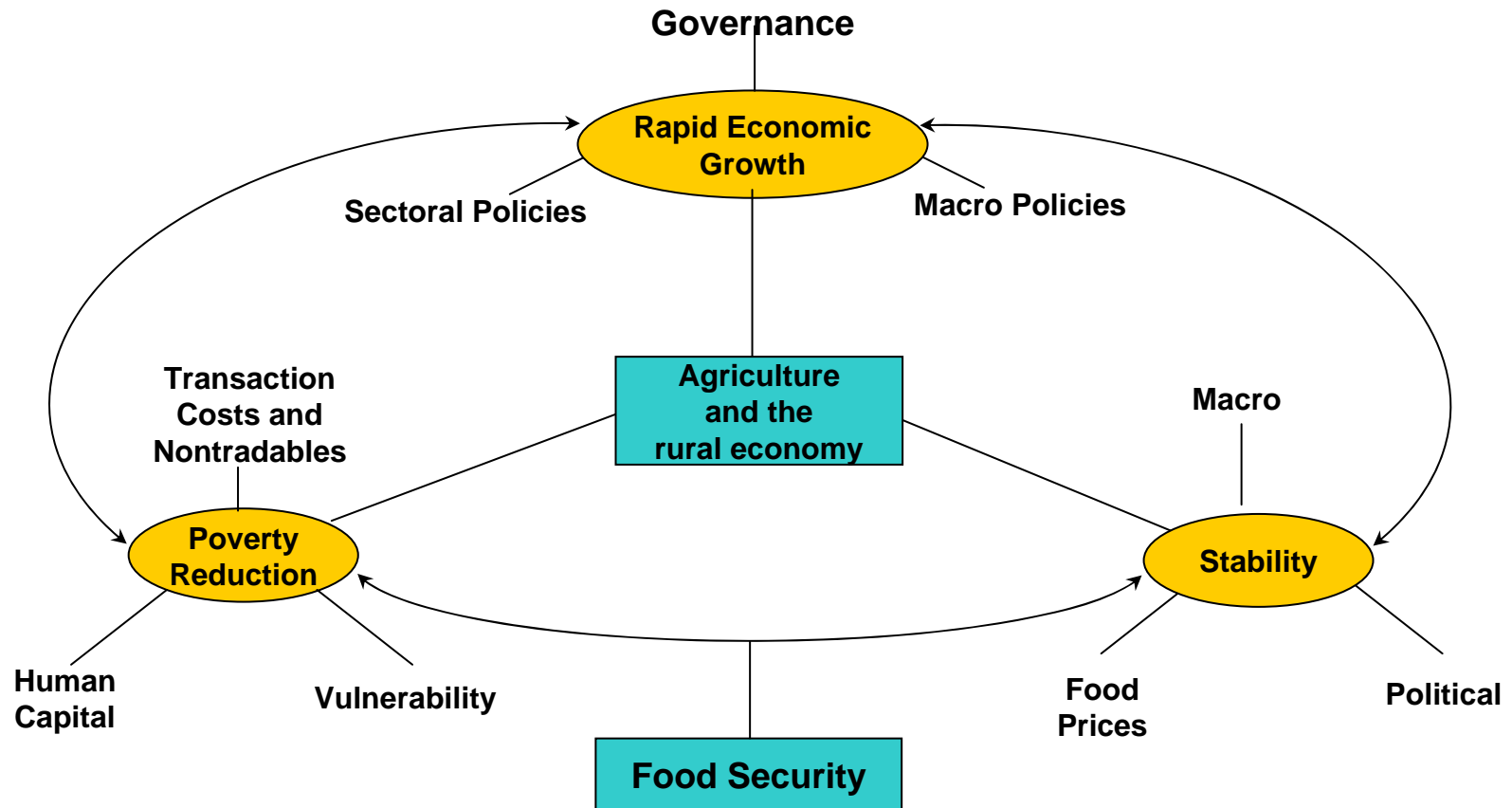
Strategic Approach comprises 3 components:

- **Rapid growth** in macro economy;
- **Poverty eradication** through rural economic growth ('pro-poor' growth); and
- **Stability** of food system.

**Net-result : GOT THE JOB DONE!** – though sometimes frowned upon by some economists because of '**distortionary**', '**efficiency**', and **cost effectiveness** arguments.

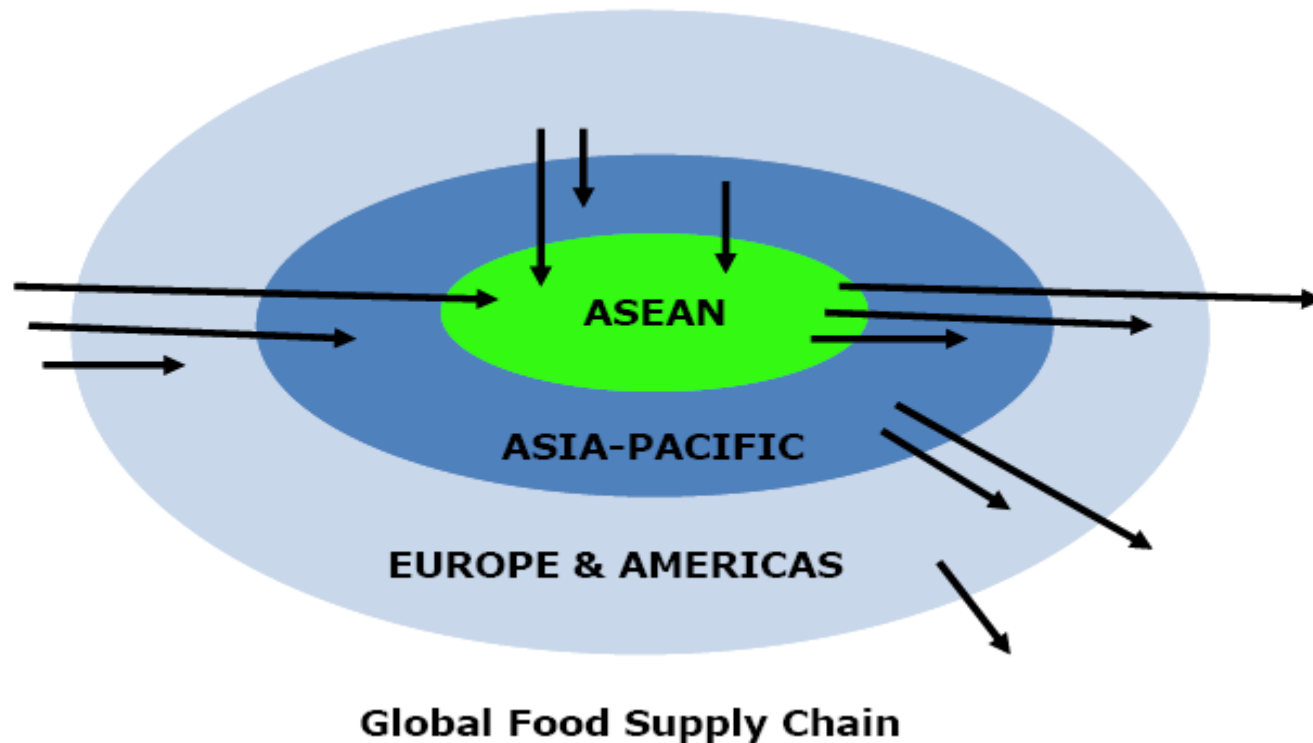
# A MACRO PERSPECTIVE OF THE DETERMINANTS OF FOOD SECURITY:

Three “virtuous circles” of activity, held together by agriculture and the rural economy



Source : Adapted from Timmer (2004)

# Conceptualization of the inter-relationships between Food Supply and Demand at regional and global levels



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# **SOME REGIONAL DECLARATIONS, PROGRAMMES, FRAMEWORKS AND PLANS**

- **Cha-am Hua Hin Statement on ASEAN Plus Three **Cooperation on Food Security and Bio-Energy Development** (Oct 2009)**
- **ASEAN Food Security Information System (AFSIS)**
- **Strategic Plan of Action on ASEAN Food Security (SPA-FS)**
- **ASEAN Multi-Sectoral Framework on Climate Change and Food Security**
- **NEAT Working Group on East Asian Food Security (July 2009)**
- **ASEAN Plus Three Roundtable on Food Security Cooperation Strategies**
- **Asia and the Pacific Region Food Security Partnership Framework (ADB, FAO, IFAD)**
- **APEC Food System and Niigata Declaration on Food Security** (adopted in inaugural Ministers Meeting on Food Security in Niigata, Japan in October 2010)



# ASEAN: Agri-Food Trade Balances, 2007. US\$ Billion

Country	Exports	Imports	Surplus (Deficit)
Indonesia	23.4	10.5	12.9
Malaysia	20.5	10.6	9.9
Thailand	25.0	8.4	16.6
Vietnam	11.7	6.1	5.6
Cambodia	0.1	0.3	(0.2)
Laos	-	-	-
Myanmar	-	-	-
Brunei	*	*	*
Philippines	3.2	4.3	(1.1)
Singapore	6.0	8.3	(2.3)

**ASEAN**  
**WORLD**

**89.9**  
**1128.0**

**53.2**  
**1128.0**

**36.7**

Source: R. Dy. 2009

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# ASEAN COUNTRIES – Major Agri-Food Commodities Produced and World Ranking

Country	Major Ag Commodities Produced	World Ranking
Brunei	rice, vegetables, fruits; chickens, water buffalo	
Burma (Myanmar)	rice, pulses, beans, sesame, groundnuts, sugarcane;	2- pigeon pea, cowpeas; 3- sesame
Cambodia	rice, rubber, corn, vegetables, cashews	
Indonesia	rice, cassava (tapioca), peanuts, rubber, cocoa, coffee, palm oil, copra; poultry, beef, pork, eggs	1- palm oil, cloves, cinnamon, coconuts; 2 – rubber, pepper; 3 – rice, coffee, cocoa
Laos	sweet potatoes, vegetables, corn, coffee	
Malaysia	rubber, palm oil, cocoa, rice, coconuts, pepper, poultry, eggs	2 – palm oil; 3 - rubber
Philippines	sugarcane, coconuts, rice, corn, bananas, cassavas, pineapples, mangoes; pork, eggs	2 – coconuts, pineapple
Singapore	orchids, vegetables; poultry, eggs; fish	
Thailand	rice, cassava (tapioca), rubber, corn, sugarcane, coconuts, soybeans	1 – rice & shrimp exporter; 1 – rubber, pineapple; 2- eggs
Vietnam	rice, coffee, rubber, cotton, tea, pepper, soybeans, cashews, sugar cane, peanuts, bananas; poultry; fish, seafood	1- cashew pepper; 2 - coffee; 2 – rice exporter

Source: FAO

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# THE ROLE OF THE PRIVATE SECTOR – ASEAN Strategic Thrust 2 – Towards Promoting Food Market & Trade

- **Bello (2005)** - Ensuring Food Security via **ASEAN Integration** (focused on rice, maize and wheat)
- **Noraini (2007)** - **Food Safety** in Southeast Asia – Challenges & Response
- Mostly focus on what Governments can and should do.

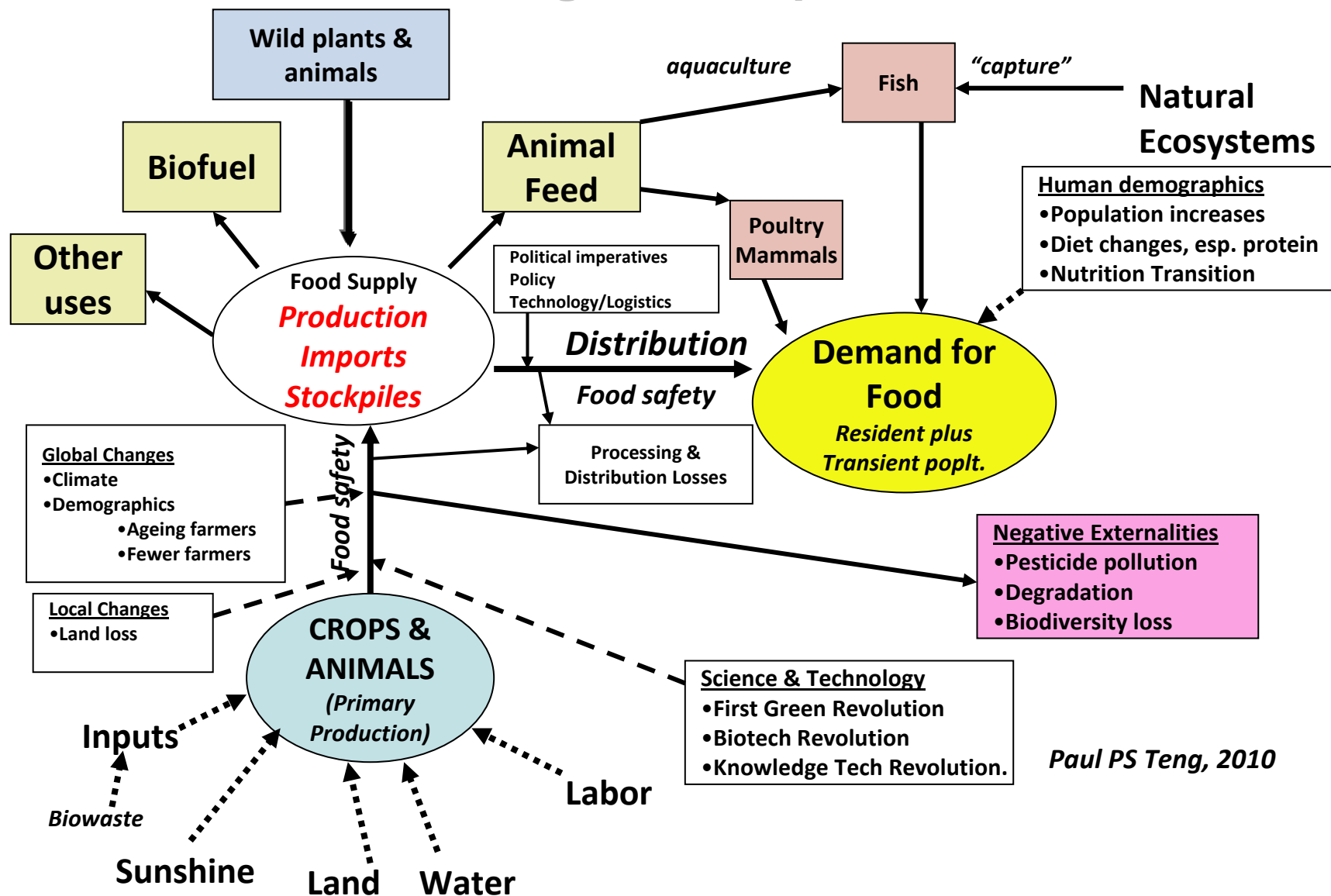
However:

- *‘International Cooperation is far too important to be left to Governments alone’*  
~ Willy Brandt
- Our Contention: One of the **key role** of private sector (on it’s own or through Public-Private Partnership) is to **develop, manage and orchestrate agri-food supply chains & regional trading networks** towards promoting Food Market and Trade and ultimately **ASEAN Food Security**

# THE ROLE OF THE PRIVATE SECTOR (Cont'd)

- **TNCs** active in the region – Nestle, Cargill, Tesco, Carrefour – regional chains, export platforms, CSR, also CSV (**“Creating Shared Value”**)
- **Cross Border Investments** – ASEAN Business Council (ASEAN Business Advisory Council); Business Angel Network of Southeast Asia (BANSEA); Malaysian South-South Association (MASSA)
- **Comprehensive Cross Border Investments** - along entire supply chain(s)
  - **Oil Palm** – FELDA, Sime Darby, KLK, SinarMas
  - **Livestock** – Charoen Pokphand Group (in Malaysia, Indonesia, Viet Nam, Cambodia, Myanmar – animal feed, layers, broilers, pigs, shrimp); Leong Hup Holdings (in Indonesia, Viet Nam – animal feed, layers and broilers).
  - Initial step is to supply host country's market – subsequently integrate sourcing of inputs and marketing on regional basis
  - **Rice** – more sensitive – need to **stabilize supplies & prices** of BOTH **domestic and international (export/import) market** – to balance the interests of farmers, consumers and regional food security

# Theoretical Framing : Conceptual Framework



# Main Threats to Food Security

## Transitory Food Security

- Weather disruptions
- **Pest and Disease outbreaks**
- Fluctuating/increasing energy prices
- Competition from energy sector
- Policy changes e.g. trade
- Lower holdings of cereal stocks
- Diversion from staple to cash crops
- Conflict / Terrorist activities
- Economic factors
- Etc.

## I. Food Availability

Production  
Imports  
Stockpiles

## II. Food Access (Physical)

Access to markets  
Infrastructure

## III. Food Access (Economic)

Employment  
Overseas Remittances  
Foreign Direct Investment  
Trade

## IV. Food Utilization

Health and nutrition  
Sanitation / Hygiene  
Storage / processing facilities  
Clean water

## Chronic Food Security

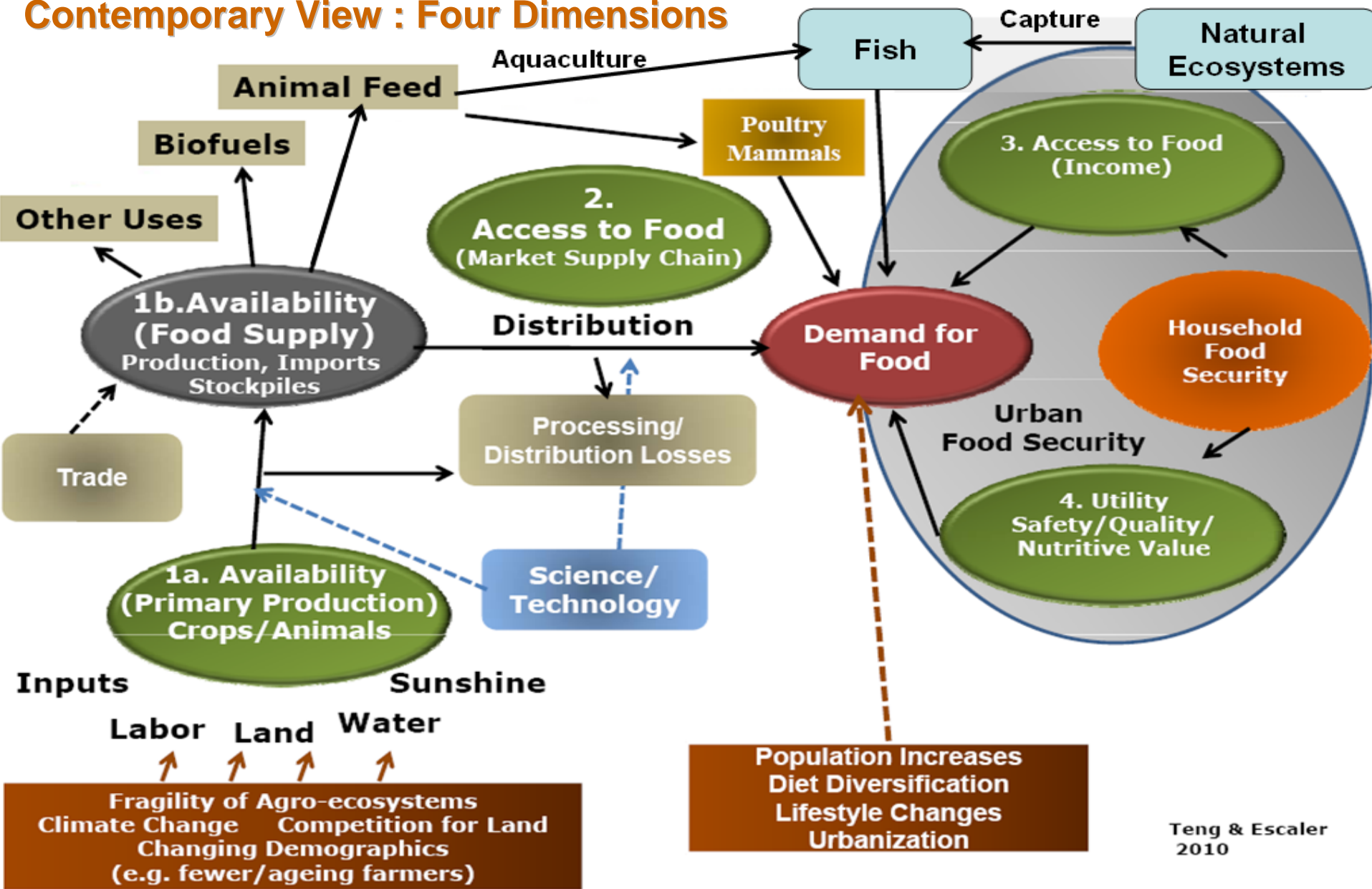
- Demographic changes
- Poverty
- Underinvestment in infrastructure / technology
- Climate change
- Fragility of agro-ecosystems
- Bias against agriculture – unfriendly policies towards farmers
- Declining number of farmers
- Globalisation
- Etc.

## Four Dimensions of Food Security

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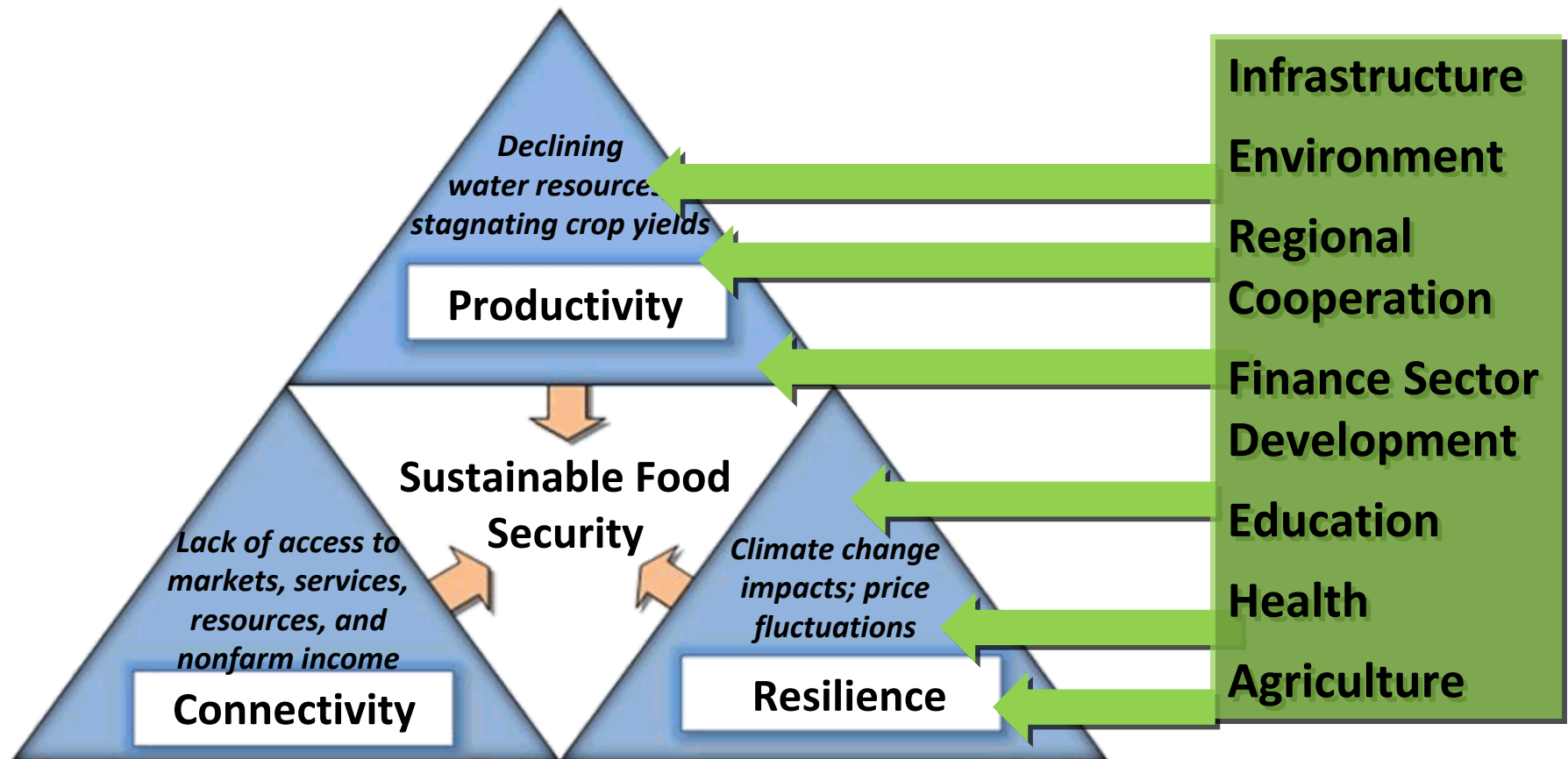
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# Contemporary View : Four Dimensions



# Sustainable food security needs multi-sector investment approach

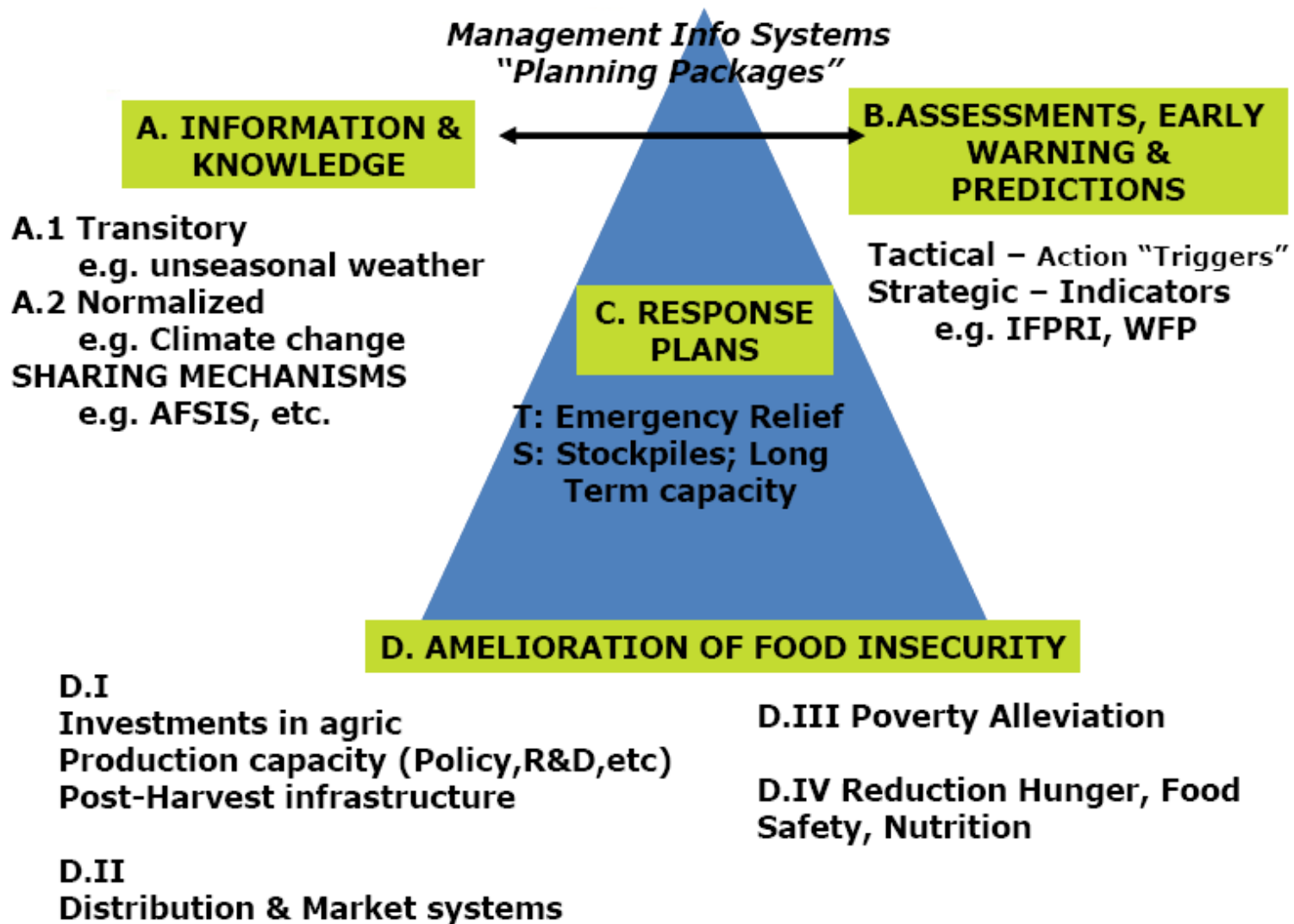
**long-term strategy and Operational Plan  
for Food Security**



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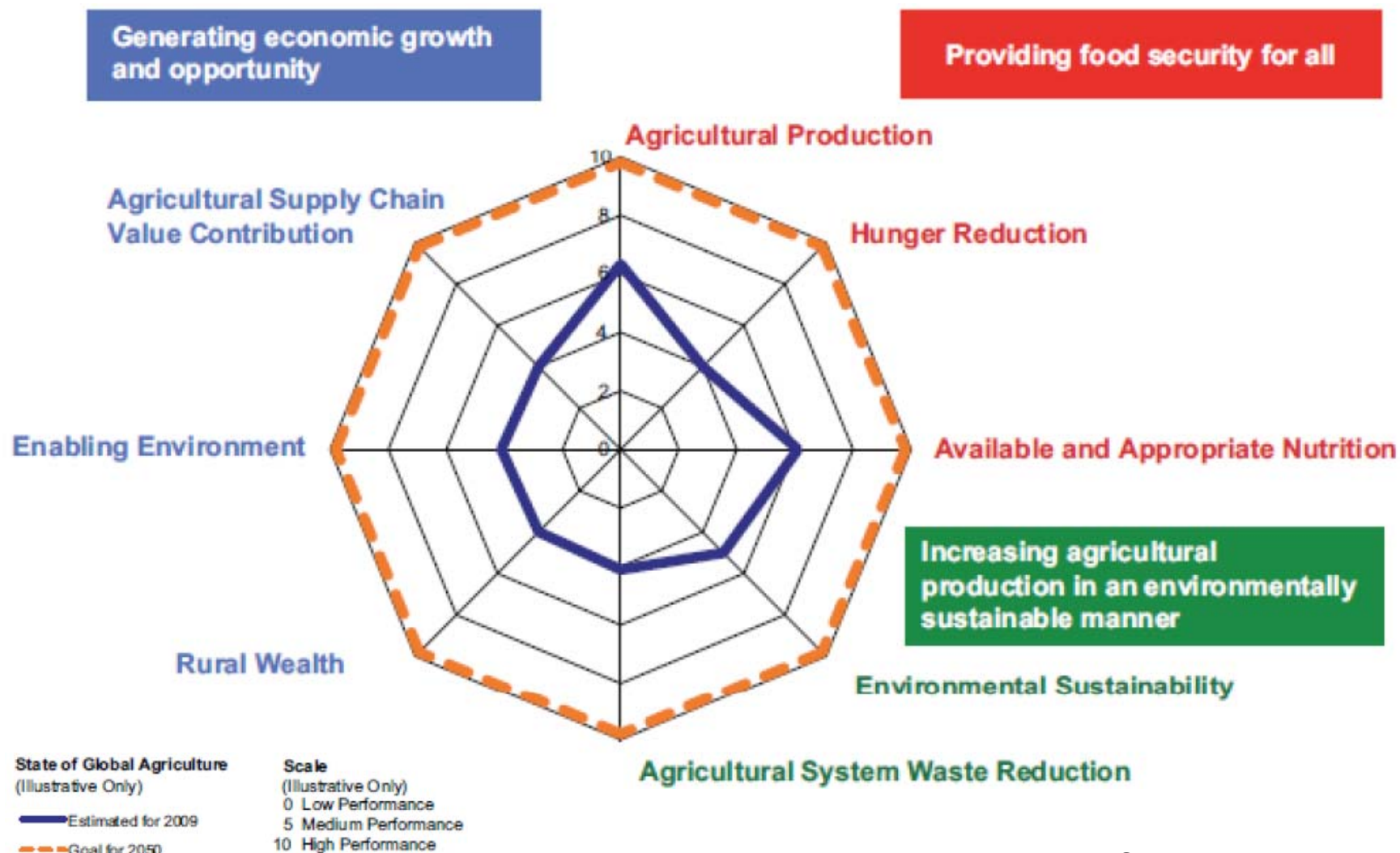
# REGIONAL FOOD SECURITY FRAMEWORK



Source: Teng & Escalar, 2010

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# OTHER CONSIDERATIONS : Assessment Methodology

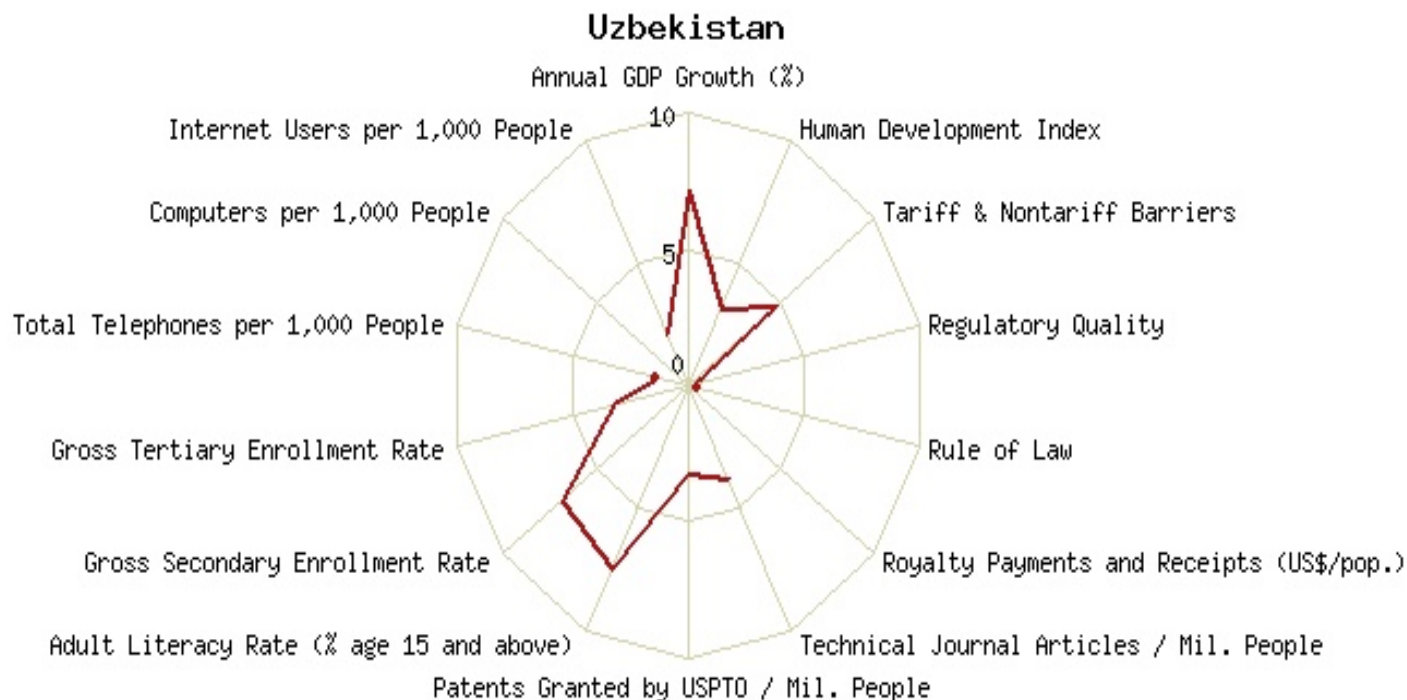


Source: Teng & Escalar, 2010

## Parallel : Knowledge Assessment Methodology -

**World Bank Institute's KAM 2007 ranks Uzbekistan 92 out of 137 countries –**

**Behind Germany (15), Japan (17), Korea (27), Malaysia (40), Russian Federation (47), Turkey (53), Brazil (54), Kazakhstan (72), Kyrgyzstan (87) but Ahead of China (75), India (101), and Tajikistan (108)**

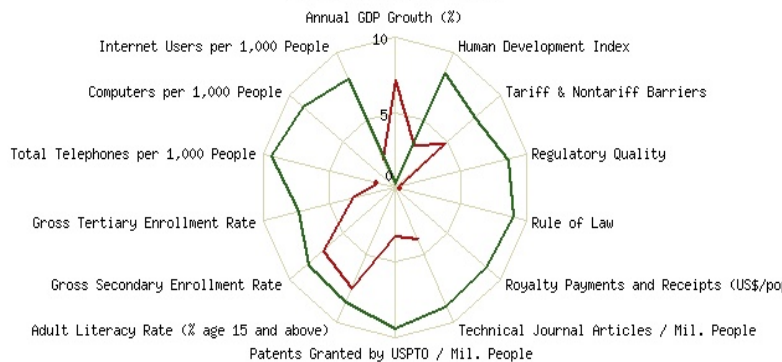


**Comparison Group: All Countries Type: weighted Year: most recent (KAM 2007)**

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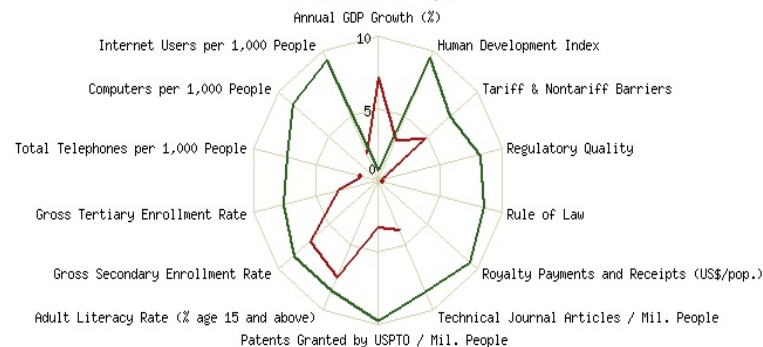
# KAM – COMPARISON WITH SELECTED COUNTRIES

Uzbekistan, Germany



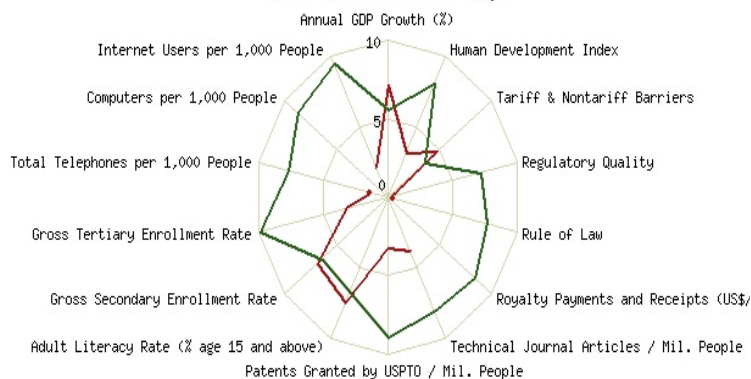
Comparison Group: All Countries Type: weighted Year: most recent (KAM 2007)

Uzbekistan, Japan



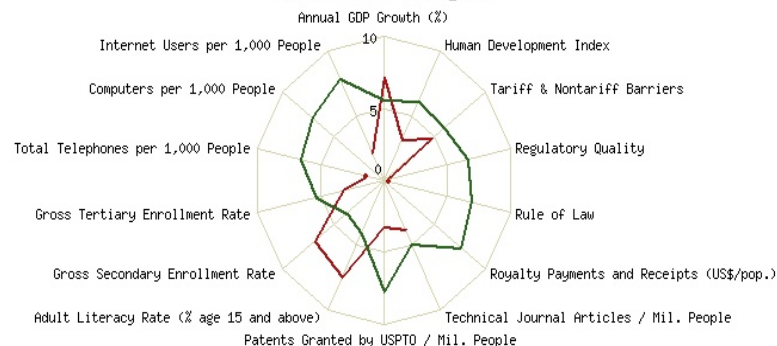
Comparison Group: All Countries Type: weighted Year: most recent (KAM 2007)

Uzbekistan, Korea, Rep.



Comparison Group: All Countries Type: weighted Year: most recent (KAM 2007)

Uzbekistan, Malaysia



Comparison Group: All Countries Type: weighted Year: most recent (KAM 2007)

# CONCLUDING REMARKS

- Many increasingly contend that National Food Security **can only be achieved with Regional and Global Food Security**
- With increasing **interconnectivity/interdependence** in Food Security – need to view as **food ecosystem** – increasingly develop and apply **systems and trans-disciplinary approach**, especially in view of **overlapping regional frameworks** ('spaghetti bowl'?)
- Interesting work is being conducted incorporating '**complex theory**' – involving **systems approach** innovatively combining **hard and soft systems analysis**, coupled with **systems to manage information/knowledge**
- Ultimately, and paraphrasing **Victor Hugo**, **markets open to trade and minds open to ideas** will help drive and reconcile regional efforts with national interests and put an **end to food insecurity**.

**THANK YOU!**

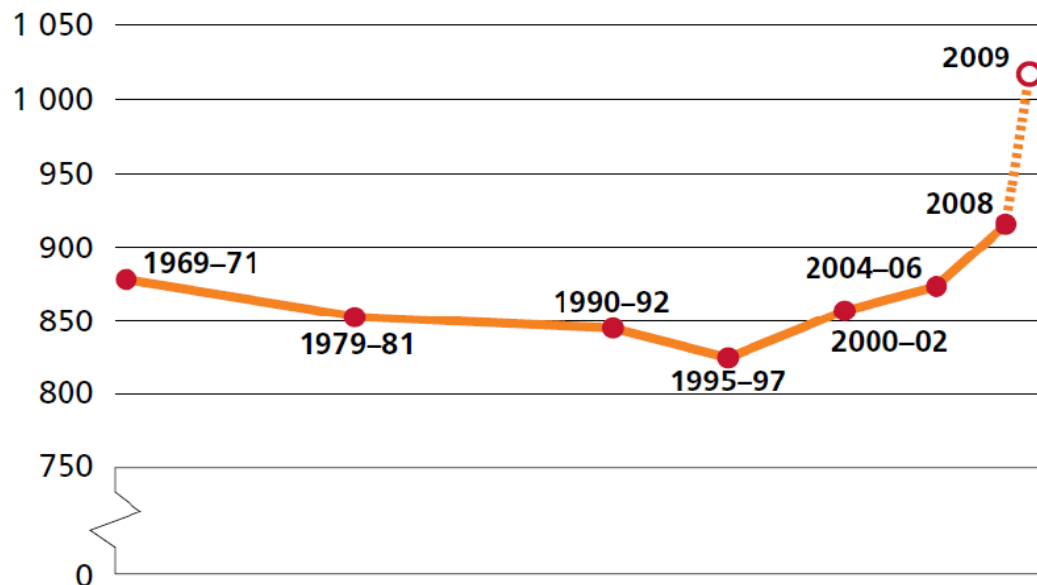
[larry@isis.org.my](mailto:larry@isis.org.my)

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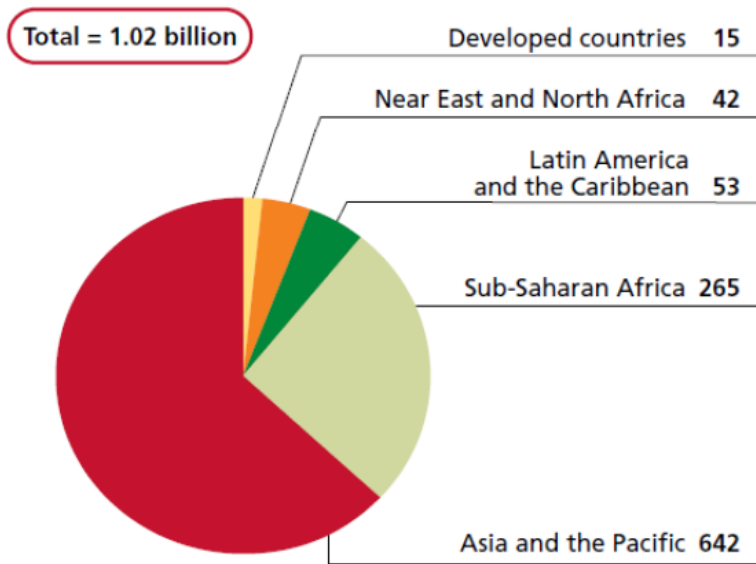
# TRENDS IN WORLD HUNGER

Of the estimated 1.02 Billion of hungry people, 642 Million live in the Asia-Pacific

Millions



## Where do the Hungry Live ?



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# CHANGE IN DEMAND FOR FOOD

- **Meat consumption**

- 100 years ago, average 25 kg/person/yr
- Today, average 80 kg/person/yr (USA – 124 kg/person/yr)
- China: 1962 – 4 kg/person/yr; 2005 – 60 kg/person/yr

- **Fish consumption**

- 1960s – 9.9 kg/person/yr; 2005 – 16.4 kg/person/yr
- 5 kg feed-fish to produce 1 kg of salmon

- **Vegetable consumption**

- 1970s – 60 kg/person/yr; 2000 – >100 kg/person/yr
- China: 1970 – 44.4 kg/person/yr; 2005 – 270.6 kg/person/yr



# REGIONAL: STATE of FOOD SECURITY in ASIA

- 947 Million Asians live on less than US\$ 1.25 per day (UN MDG Summit, 20-22 Sept 2010)
- Asia is home to 2/3rds of the world's poor and hungry
- Asia is home to the largest number of hungry and malnourished (580 million) with over 40% in China and India alone.
- Destabilizing factors persist:
  - *Economic uncertainty, competition for land,*
  - *Rapid urbanization, an increasing population*
  - *Climate change, unseasonal weather patterns,*
  - *Failing water availability, energy security and*
  - *Resource scarcity, Degradation of the natural resource base trends*

# ASEAN OVERVIEW - 2008

(ASEAN as a production base as well as a market)

	ASEAN	China	India
Population (million)	583.7	1,338.6	1,166.1
Land Area (million km <sup>2</sup> )	4.4	9.6	3.3
GDP (US\$ billion)	1,506.2	7.973 trillion	3.297 trillion
GDP Per Capita (US\$)	2,582	6,000	2,900
Exports (US\$ billion)	879.1	1.435 trillion	176.4
Imports (US\$ billion)	831.2	1.074 trillion	305.5
GDP Growth (%)	4.4	9.0	7.4

Source : ASEAN Secretariat & World Fact Book

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