



Global Food Supply Chains and the Role of Agribusiness in Food Security

A Presentation to the
**RSIS Centre for Non-Traditional Security Studies
Nanyang Technological University
Singapore**

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Outline

- **Global Opportunities and Challenges**
- **Key Agribusiness Countries**
- **Key Global Companies**
- **The ASEAN Food Trade**
- **Ensuring Food Security in Food-Importing Countries**
- **Ways to Safeguard the Global Supply Chain**
- **Researchable Issues on PPP**

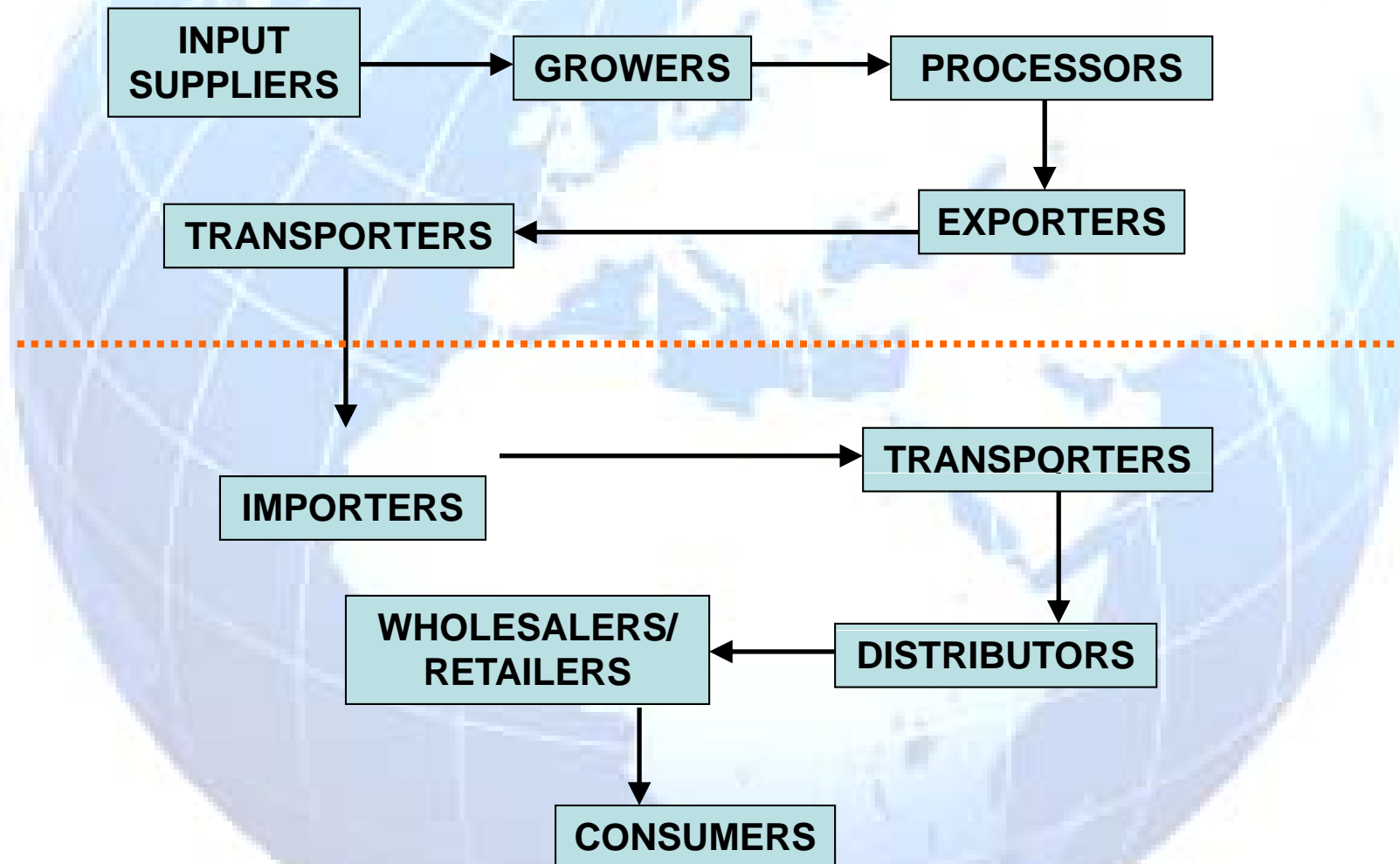
GLOBAL OPPORTUNITIES

- **Rising incomes and wealth in Asia - China, India, ASEAN**
- **Supply chain transformation**
- **Bio-fuels boom**
- **Technology advances (Life sciences + ICT)**
- **Liberalized trade**
- **Cross-border investments**

GLOBAL CHALLENGES

- **Pressure on food supply**
- **Rising energy costs**
- **High fertilizer costs**
- **Increasing land scarcity**
- **Increasing water scarcity**
- **Climate change**
- **Stringent food standards**

THE GLOBAL FOOD SUPPLY CHAIN



KEY AGRIBUSINESS COUNTRIES

ASEAN countries are players.....

Major Agri-food Traders and Balances

(Values in \$ B, 2007)

Country	Exports	Imports	Balance (+ /-)
USA	113.5	109.4	+4.1
EU 27*	108.7	149.5	-40.8
Canada	48.7	27.3	+21.4
Brazil	48.2	7.2	+41.0
China	38.8	65.2	-26.4
Argentina	28.8	2.2	+26.6
Thailand	25.0	8.4	+16.6
Russia	23.5	26.9	-3.4
Indonesia	23.4	10.5	+12.9
Australia	22.4	8.9	+13.5

KEY AGRIBUSINESS COUNTRIES

Major Agri-food Traders and Balances

(Values in \$ B, 2007)

Country	Exports	Imports	Balance (+ /-)
Malaysia	20.5	10.6	+9.9
New Zealand	16.0	2.8	+13.3
India	16.0	9.6	+6.4
Mexico	15.6	21.9	-6.3
Chile	13.6	3.4	+10.2
Above 15	562.7	460.8	101.9
Memo items:			
EU (27)	487.7	528.5	-40.8
Within EU	379.0	379.0	0
Outside EU	108.7	149.5	-40.8
Vietnam	11.7	6.1	+5.6

* Excluding within EU

Source: WTO



KEY GLOBAL AGRIBUSINESS COMPANIES

- **US and the EU dominate in size and number**

Crop Protection and Seeds Providers

US, Germany and Switzerland in the league

Country	Company	Revenues, 2008 (\$ B)
US	Monsanto Corp	11.4
Germany	Bayer Cropscience	9.4
Switzerland	Syngenta	8.0
US	DuPont (Agri)	8.0
Germany	BASF (Agri)	5.0
US	Dow AgroSciences	4.5

Source: Company websites

Leading Primary Breeders

EU and US lead.....

Country	Company	Breeds
	Broilers	
Germany	Aviagen (EW Group)	<i>Ross, Arbor-Acres, Lohmann-Indian River</i>
US	Cobb Vantress (Tyson Foods)	<i>Cobb</i>
Netherlands	Hendrix Genetics	<i>Hybro and Pilch</i>
France	Grimaud Group	<i>Hubbard</i>
	Layers	
Netherlands	Hendrix Genetics	<i>ISA, Shaver, Warren, Babcock, Bovans, HiSex, Dekalb</i>
Germany	Aviagen (EW Group)	<i>Lohman, Hyline, and H&N</i>

Source: Company Websites; https://canadianpoultrymag.annexweb.com/peter_hutton

Cont... Leading Primary Breeders

Country	Company	Breeds
	Swine	
United Kingdom (UK)	Genus plc	<i>PIC</i>
Netherlands	Hendrix Genetics	<i>Hypor, BHZP</i>
Netherlands	Topigs	
UK	ACMC	<i>Vantage, Volante breed, Meidam, AC1</i>
	Cattle	
UK	Genus plc	<i>ABS</i>
Canada	IGL	<i>IGL</i>
	Fish	
Germany	Aqua Gen (EW Group)	<i>Salmon and trout</i>

Source: Company Websites; <https://canadianpoultrymag.annexweb.com/peter> hutton

Animal Health Companies

US and EU dominant...

Country	Company	Sales revenues, 2008, \$ M
US	Intervet (Schering Plough)	2,970
US	Pfizer Animal Health	2,800
France	Merial (Sanofi-Aventis)*	2,600
Switzerland	Novartis Animal Health	1,800
Germany	Bayer Animal Health	1,200
US	Fort Dodge (Wyeth)	1,100
US	Elanco (Eli Lilly)	1,000
France	Virbac	660
US	Phibro	511

*Merck sold out to Sanofi in July 2009.

Source: Company websites

Fertilizer Companies: *Resource-based countries*

Country	Company	Revenues, 2008 (\$ B)
Norway	Yara	16.0
Canada	Agrium	10.0
US	Mosaic	9.8
Canada	PotashCorp	9.4
Morocco	OCP Group	7.2
Germany	K + S	7.0
Israel	Israeli Chemicals Ltd	6.9
Bahamas	Bunge	5.9
Belarus	Belaruskali	4.0
US	CF Industries	3.9
US	Terra Industries	2.9
Russia	Uralkali	2.1
Russia	Silvinit	0.9
Russia	Acron	0.9

Source: Company websites

Farm Machinery Suppliers

A US domain?

Country	Company	Brands	Sales Revenues 2008 (\$ B)
US	Deere and Co (1857)	<i>John Deere</i>	25.8
US	CNH Global (1999)	<i>Case IH, New Holland, Steyr</i>	18.5
Japan	Kubota Corp (1890)	<i>Kubota</i>	11.5
US	AGCO Corp (1990)	<i>Massey-Ferguson Valtra, Challenger, Fendt</i>	8.4

China and India are emerging suppliers.

Source: Company websites

Packaging Firms

Players spread out...

Country	Company	Revenues 2007 (\$ B)
Sweden	Tetrapak	11.8
Australia	Amcor	9.2
US	Owens-Illinois	7.6
UK	Rexam	7.2
US	Ball Corp	7.2
US	Crown Holdings	6.9
France	Alcan Packaging	6.2
France	Saint-Gobain (Packaging)	5.8
Japan	Toyo Seikan Group	5.6
US	Sealed Air	4.7
US	Sonoco Products	4.0
US	Silgan	3.9
US	Bemis	3.6
US	Alcoa (Packaging)	3.3
Mexico	Vitro SA	2.6

Source: www.gravitie.com, cited by FoodProductionDaily.com (November 20, 2008); Annual Reports

The Commodity Giants

US leads; Singapore in

Country	Company	Revenues in 2008, \$ B
US	Cargill (1865)	120.4
US	ADM (1902)	69.8
Bahamas	Bunge Ltd (1818)	37.8
Belgium	Continental Grains (1813)	*
Singapore	Wilmar International Ltd (1991)	29.1
US	CHS (1931)	21.0**

** Not available ** Agribusiness and processing sales*

Source: Company websites

Global Packaged Food Companies

US and EU territories....

Country	Company	Total Sales, 2007 (\$ B)	Food Sales, 2007 (\$ B)
Switzerland	Nestle SA	89.6	49.9
US	Cargill	88.3	36.1
UK/Dutch	Unilever	54.8	29.6
US	Kraft Foods	37.2	29.2
US	Tyson Foods	25.7	25.7
US	PepsiCo	39.5	24.5
France	Group Lactalis	13.2	13.2
France	Groupe Danone	17.5	12.7
US	General Mills	12.4	12.4
US	Smithfield Foods	11.9	11.9

(a) Merged with Perdigao in June 2009 to create *Brasil Foods*, the world's largest poultry producer.

(b) Merged to form FrieslandCampina in 2008.

(c) Cadbury PLC demerged from Dr Pepper Snapple Group Inc. in May 2008.

(d) Mars, Inc acquired Wrigley's in October 2008.

Source: Company Websites; www.datamonitor.com; wikipedia

Leading Global Retailers (a)

Country base	Company	Revenues (\$ B)
US	Walmart	374
France	Carrefour	160
Germany	Metro	101
UK	Tesco	90
US	Kroger	76
US	Costco	72
US	Target	65
Germany	Rewe	61
France	Auchan	58
Japan	Seven & I	56

(a) From top 5 to 20, the rankings could vary depending on their respective food sales.

Source: Company websites

Cont... Leading Global Retailers (a)

Country base	Company	Revenues (\$ B)
France	Intermarche	54
Germany	Lidl	53
Germany	Aldi	53
Japan	Aeon	52
US	Albertsons	45
Germany	Edeka	45
US	Safeway	44
France	Casino	42
France	E. Leclerc	41
Netherlands	Ahold	40

(a) From top 5 to 20, the rankings could vary depending on their respective food sales.

Source: Company websites

Food Service Providers and QSRs

US dominates...

Country	Company	No. of Locations Worldwide	Sales Revenues (Company), \$ B
Food Service			
US	Sysco Corp	Not available	37.5
UK	Compass Group	~ 40,000	22.5
US	US FoodService	60	21.0
US	Aramark Corp	Not available	12.4
QSRs (a)			
US	McDonald's (2008)	31,967	23.5
US	Yums! Brands (b)	~36,000	11.3
US	Burger King	>11,500	2.5
US	Wendy's/Arby's	>10,300	1.8

(a) QSR = Quick-service restaurants.

(b) KFC, Pizza Hut, A&W, Long John Silver

Source: Company websites

Bulk Carriers



Global Logistics Providers

Dry Bulk Carriers

Country	Company	No of vessels (capacity in ,000 dwt)
China	Cosco	412 (32,000)
Greece	Excel Maritime	48 (4,040)
USA	Dryships	34 (2,700)
USA	Genco Shipping*	35 (2,900)
Greece	Diana Shipping	22 (2,500)
USA	Quintana Marine	20 (2,300) (17 to Bunge)
Greece	Navios Maritime	24 (2,080) +20/30 charters
USA	Eagle Bulk	22 (1,700)

Vessels: handysize, handymax, supramax, panamax, kamsarmax, and cape size

* In alliances with Wallem Group with 206 vessels (16 million dwt)

Container Ship



Global Logistics Providers

Containerized Ships

Country	Company	Ships and '000 TEU
Denmark	Maersk Line	545 (2,046)
Switzerland	Mediterranean Shipping Co (MSC)	414 (1,650)
France	CME CGM	384 (1,100)
USA	APL	147 (590)
Taiwan	Evergreen Marine	152 (555)
Germany	Hapag-Lloyd	124(542)
China	Cosco Container	134 (498)
Chile	CSAV	128 (469)
R. Korea	Hanjin	98 (448)
China	CSCL	122 (440)
Japan	NYK Line	95 (365)
World Fleet		~11,109

Source: BBC Tracking Project As of May 2010

WORLD FOOD BASKETS

Key Exporters

Country	Food Crop	Meat/Dairy	Seafood
USA	Wheat, maize, soybean, rice	Chicken, beef, pork	
Brazil	Soybean, sugar, coffee	Chicken, beef, pork	
Argentina	Wheat, maize, soybean, soybean oil	Beef	
Canada	Wheat, canola oil	Pork	
EU	Wheat	Pork, dairy	
New Zealand	Fruits	Beef, lamb, dairy	
Australia	Wheat, sugar, fruits	Beef, dairy	

WORLD FOOD BASKETS

Key Exporters

Country	Food Crop	Meat/Dairy	Seafood
Thailand	Rice, sugar, fruits, maize	Chicken	Canned tuna, shrimps
Indonesia	Palm oil, coffee		Shrimps, canned tuna
Malaysia	Palm oil, fruits		
Vietnam	Rice, coffee, fruits		Shrimps, catfish
Philippines	Coconut oil, fruits		Tuna
China	Apples, tangerines, other fruits	Chicken, pork	Shrimps, tilapia

THE ASEAN FOOD TRADE



The coverage:

- **Rice**
- **Wheat**
- **Maize**
- **Sugar**
- **Dairy products**
- **Fish/Seafood**
- **Meat**
- **Fruits**
- **Vegetables**

THE ASEAN SCORECARD

In Surplus

Rice

Fish

Fruits

Sugar

Vegetable oil

In Deficit:

Maize

Meat

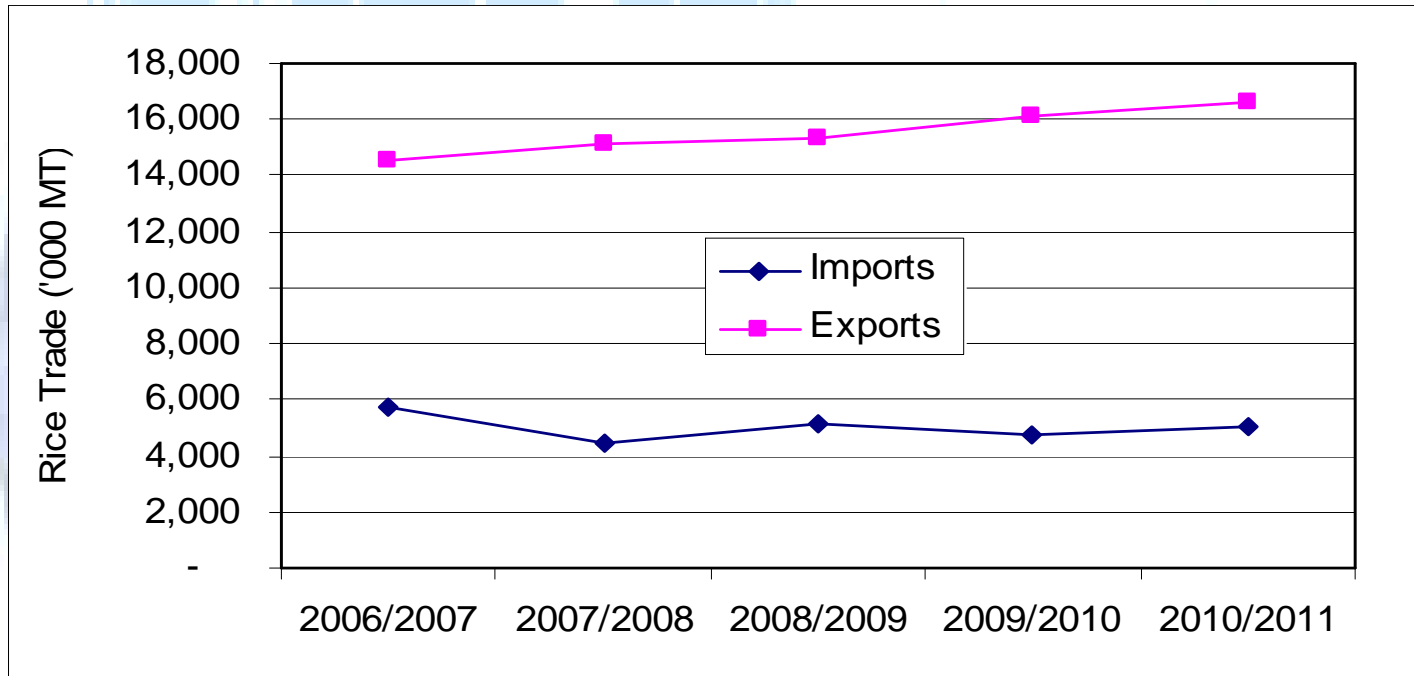
Dairy products

Vegetables??

ASEAN COMMODITY BALANCES

Rice: Net exporter

ASEAN Rice Trade, 2006/2007 - 2010/2011



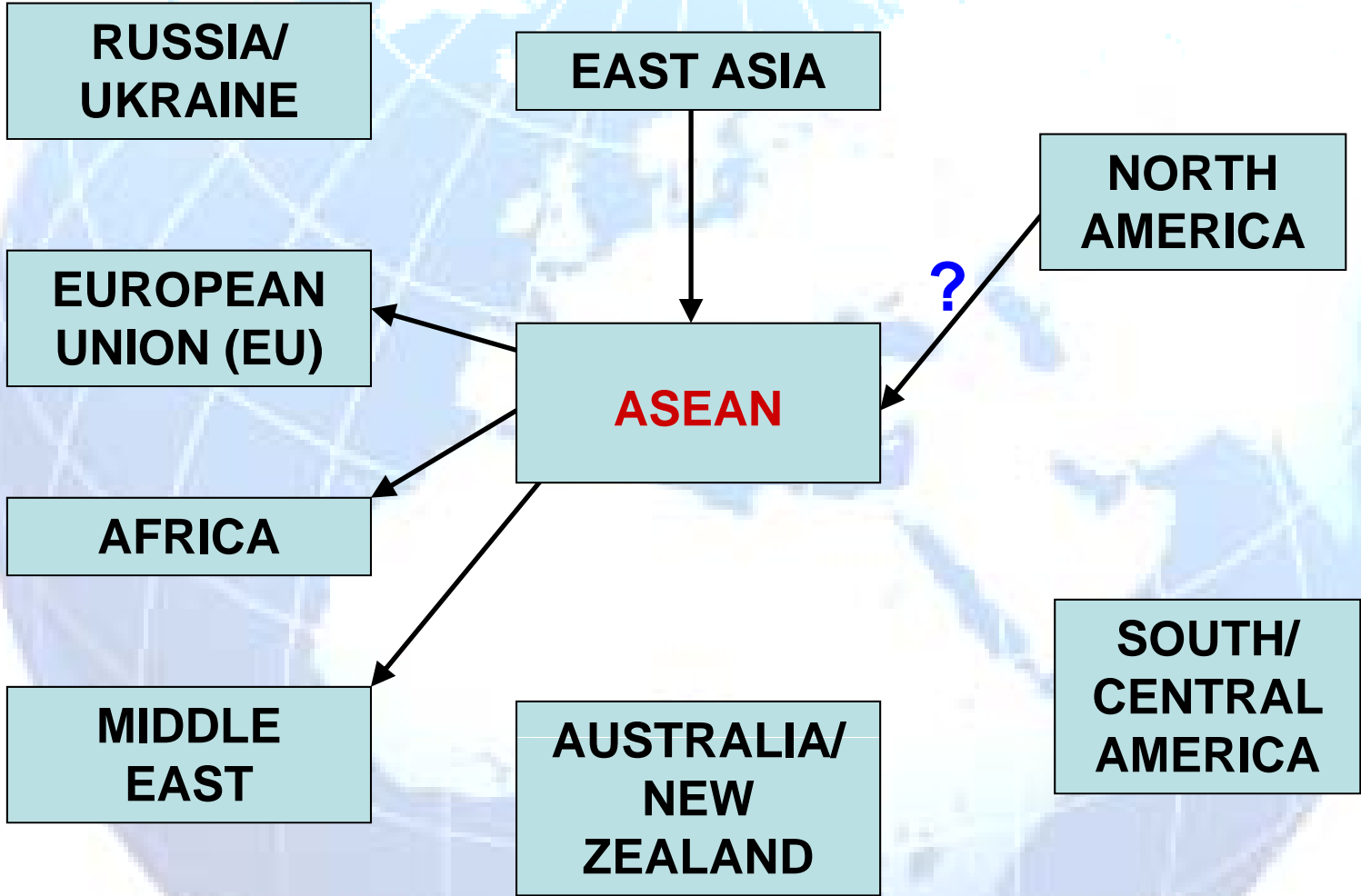
Source of basic data: USDA

Supplier to ASEAN

Internal: Thailand, Vietnam

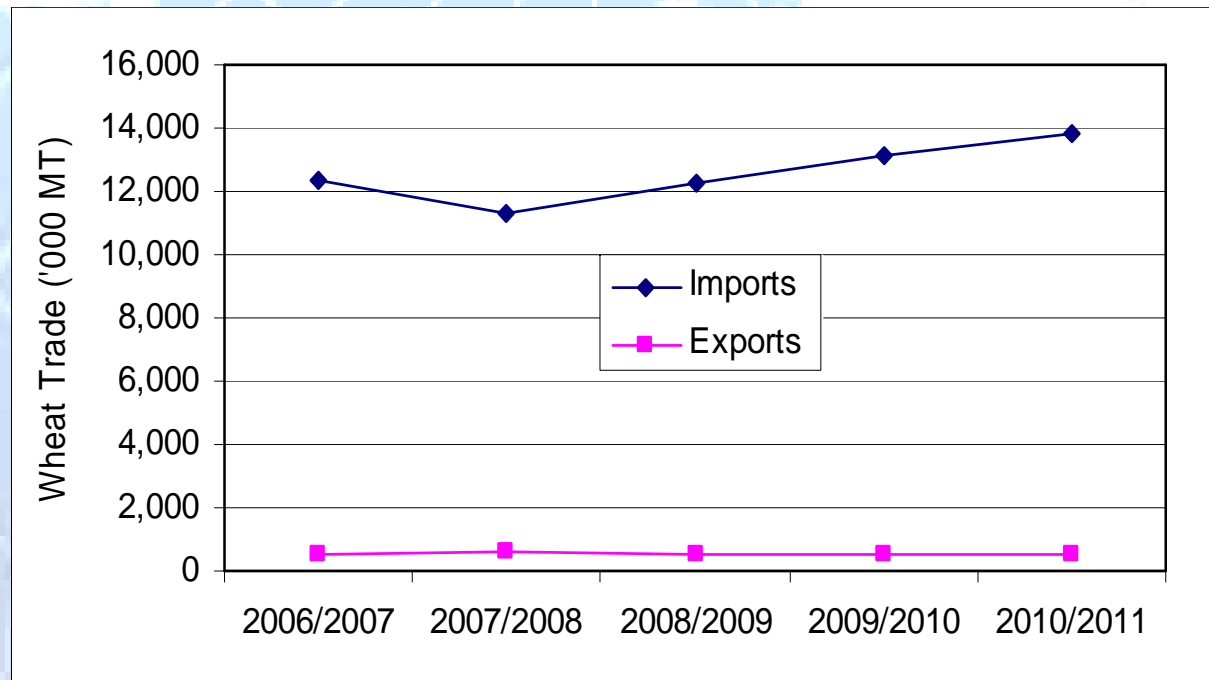
External: India, Pakistan, US

ASEAN TRADE FLOW: **Rice**



Wheat: Net importer

ASEAN Wheat Trade, 2006/2007 - 2010/2011



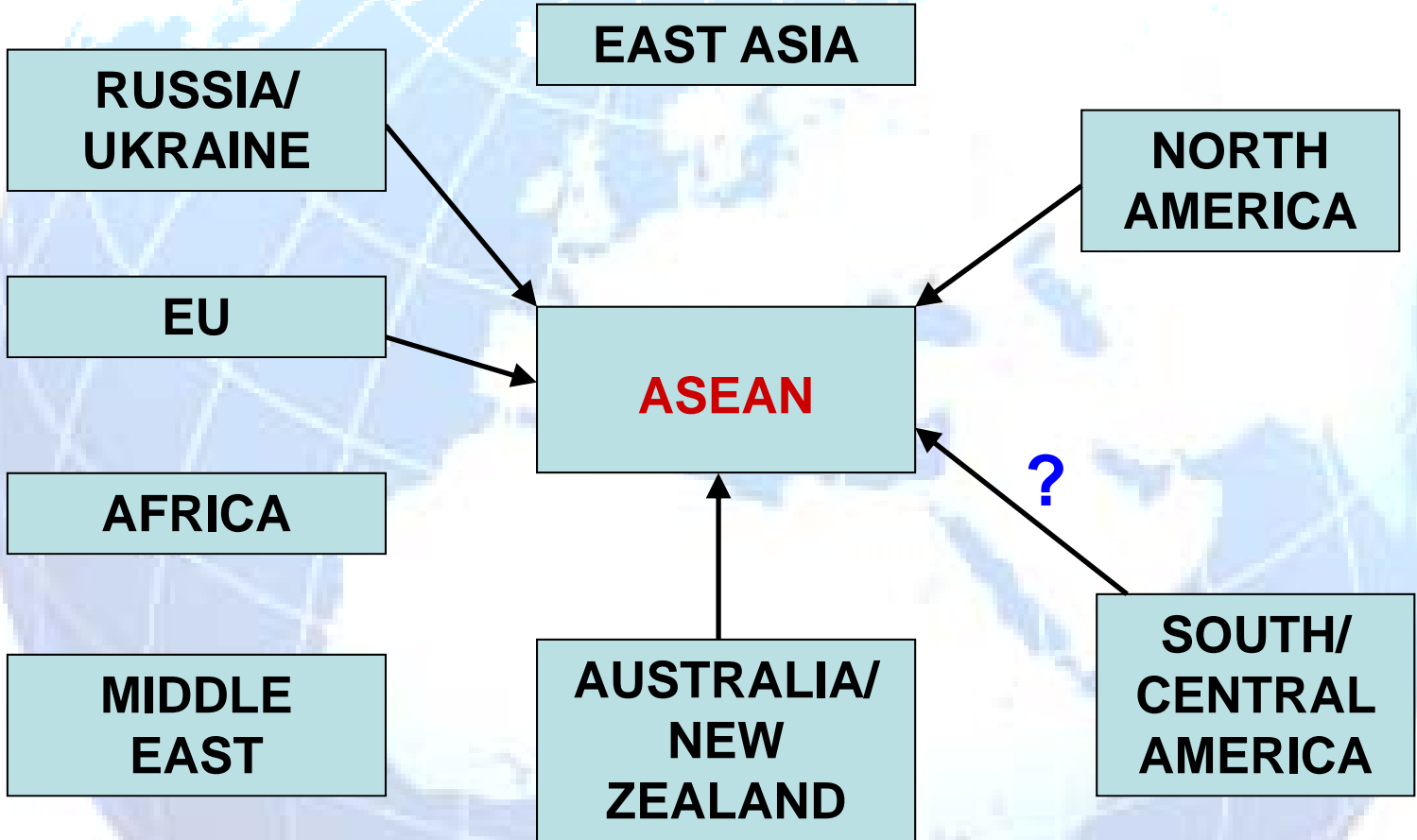
Source of basic data: USDA

Supplier to ASEAN

Internal: None

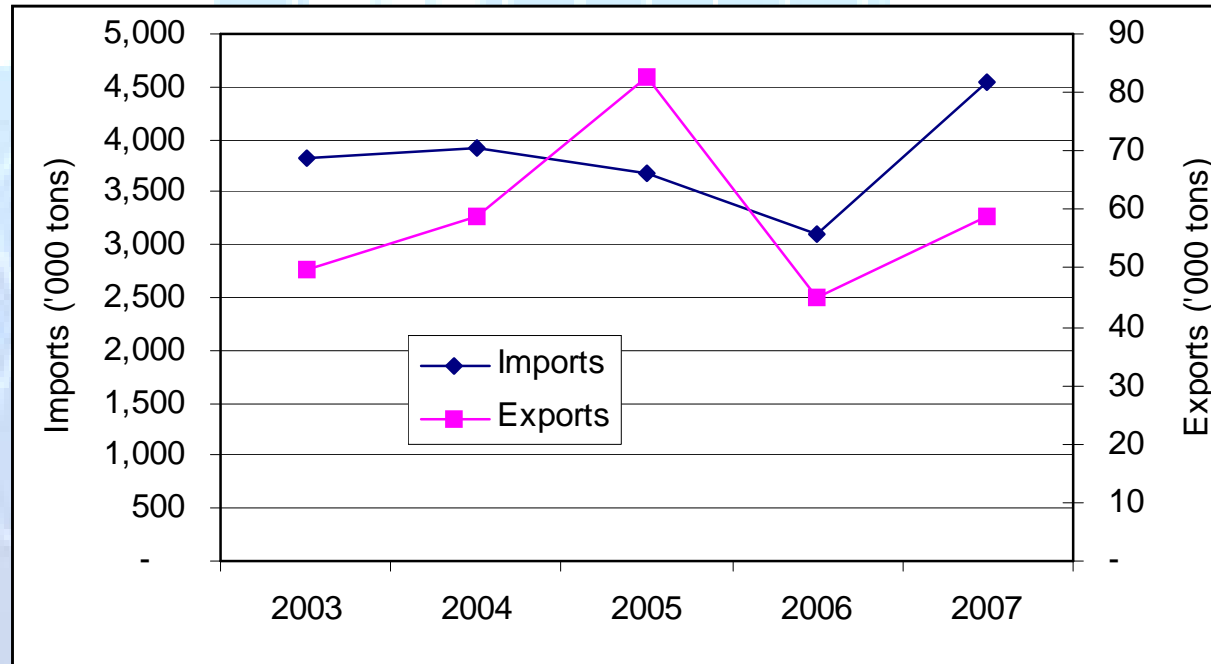
External: US, Canada, Australia, Russia, Ukraine etc.

ASEAN TRADE FLOW: **Wheat**



Soybeans: Net importer

ASEAN Soybean Trade, 2003 - 2007



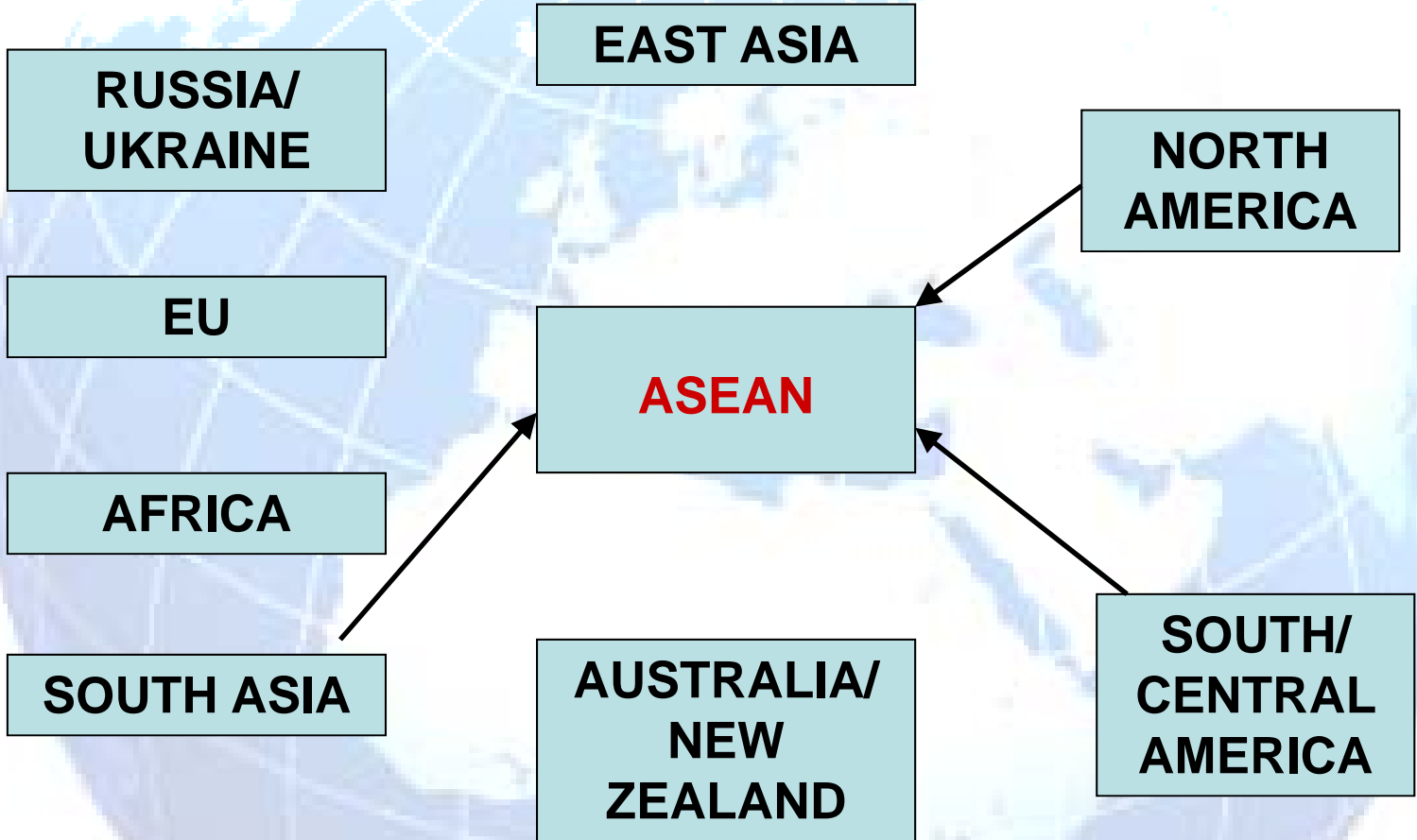
Source of basic data: FAO

Supplier to ASEAN

Internal: None

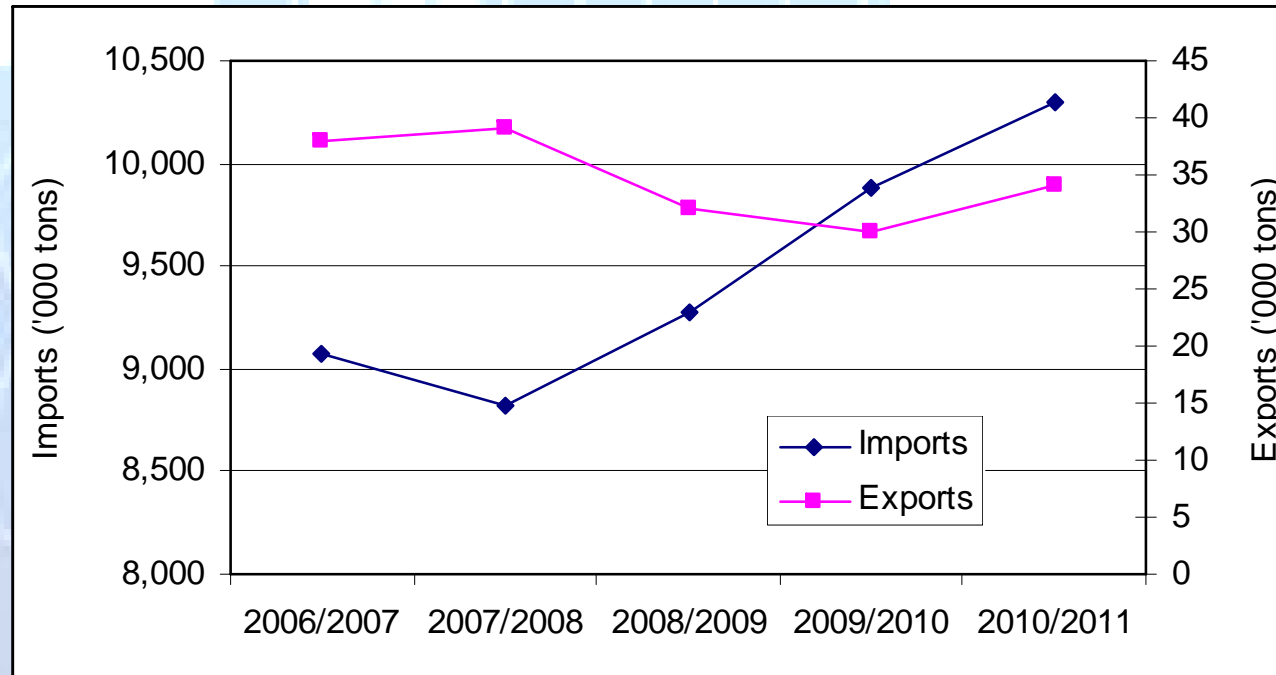
External: US, Brazil, India

ASEAN TRADE FLOW: Soybeans



Soybean meal: Net importer

ASEAN Soybean Meal Trade, 2006/2007 – 2010/2011



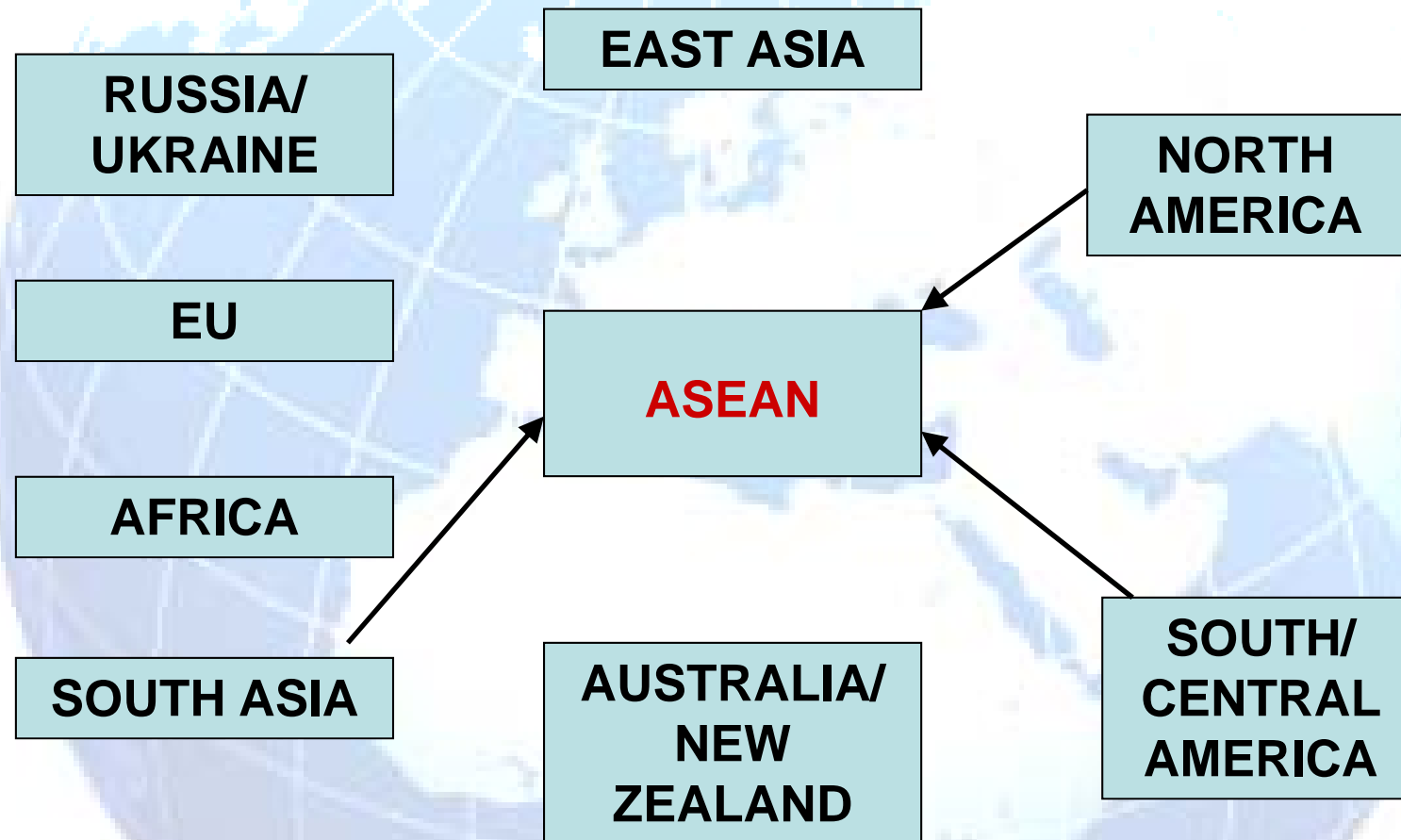
Source of basic data: USDA

Supplier to ASEAN

Internal: None

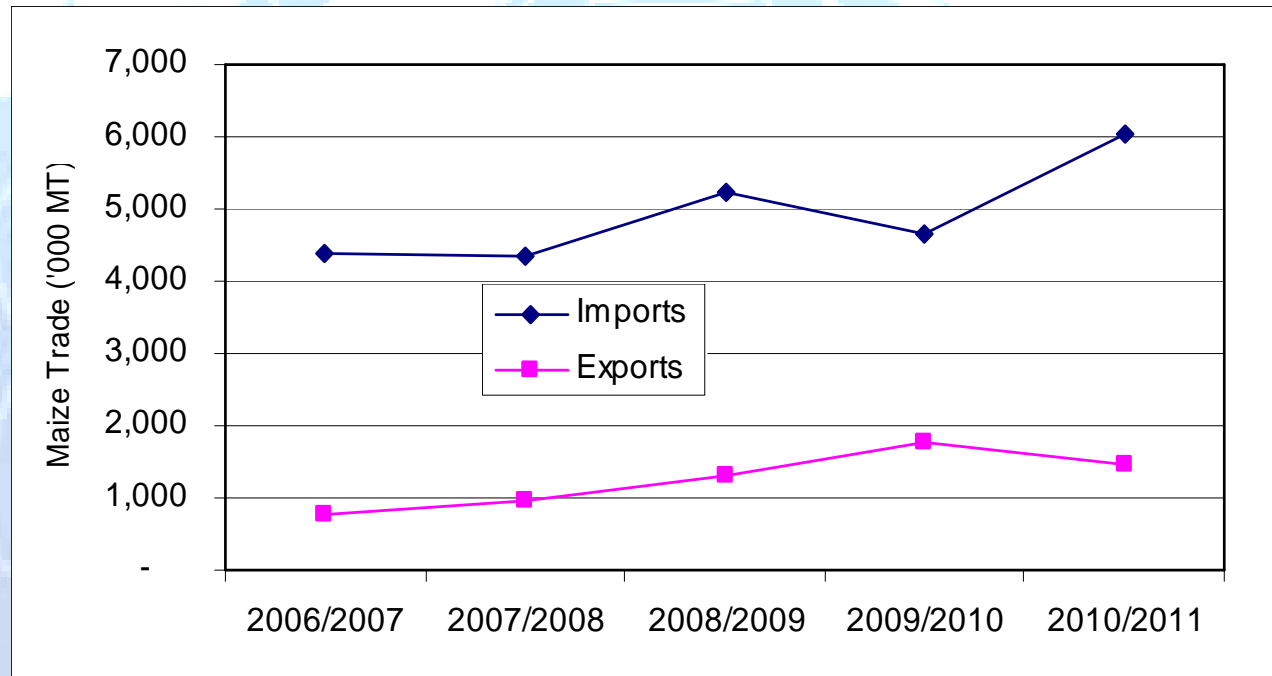
External: US, Brazil, India

ASEAN TRADE FLOW: Soybean meal



Maize: Net importer

ASEAN Maize Trade, 2006/2007 - 2010/2011



Source of basic data: USDA

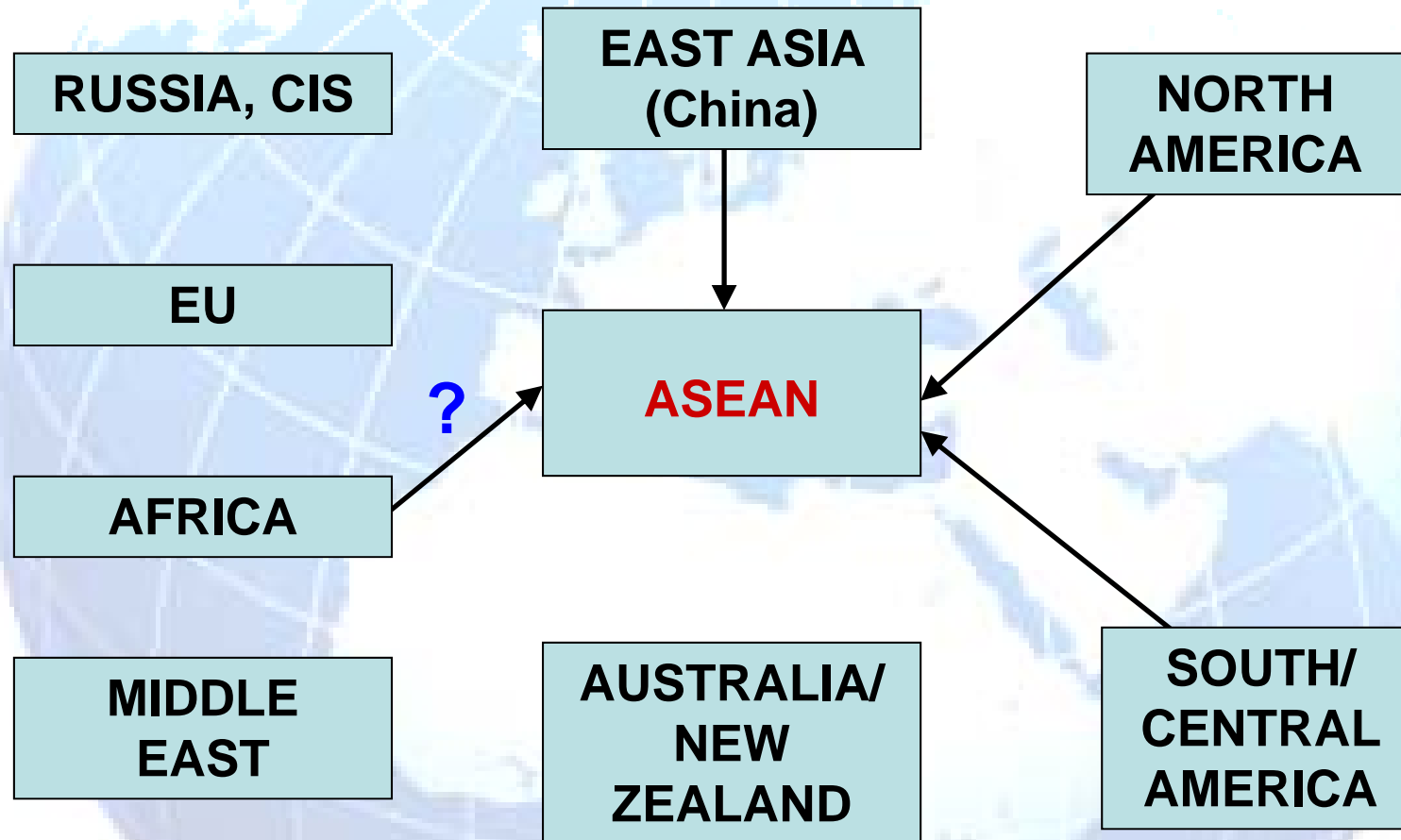
Supplier to ASEAN

Internal: Thailand, Cambodia

External: US, Argentina

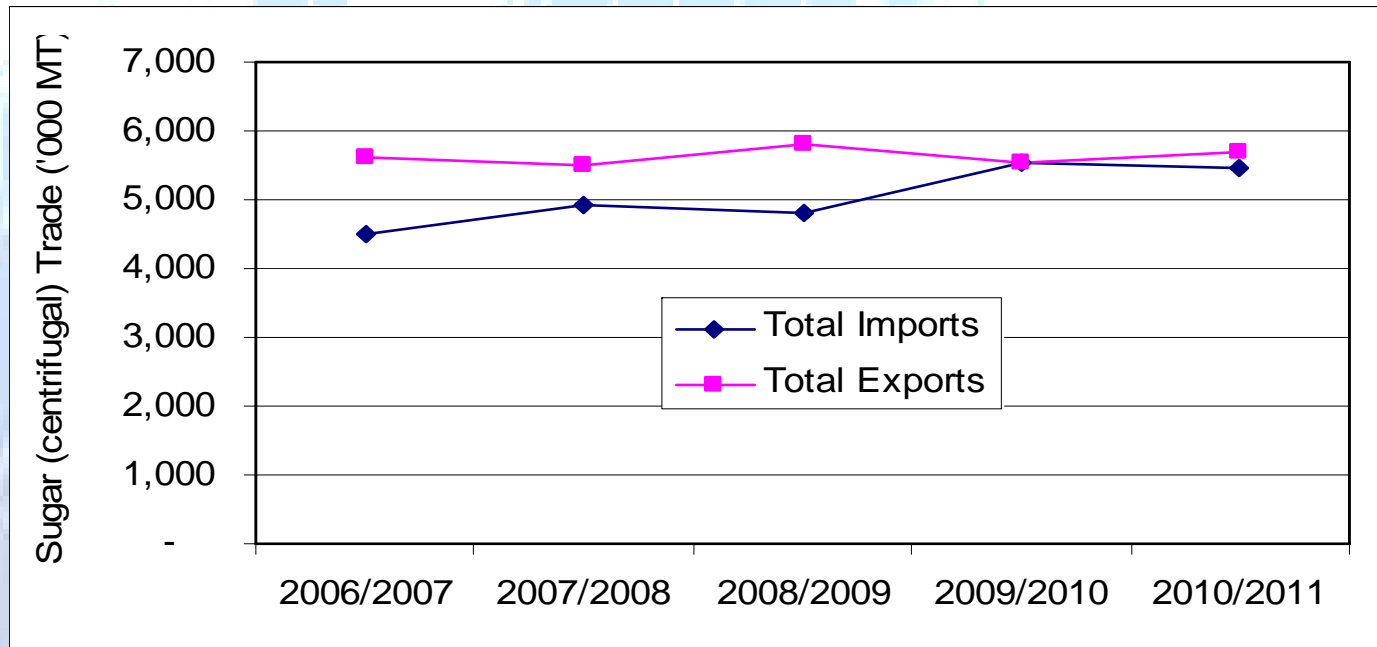
Potential producers: Indonesia, Laos,
Myanmar

ASEAN TRADE FLOW: **Maize**



Sugar: Net exporter

ASEAN Sugar Trade, 2006/2007 - 2010/2011



Source of basic data: USDA

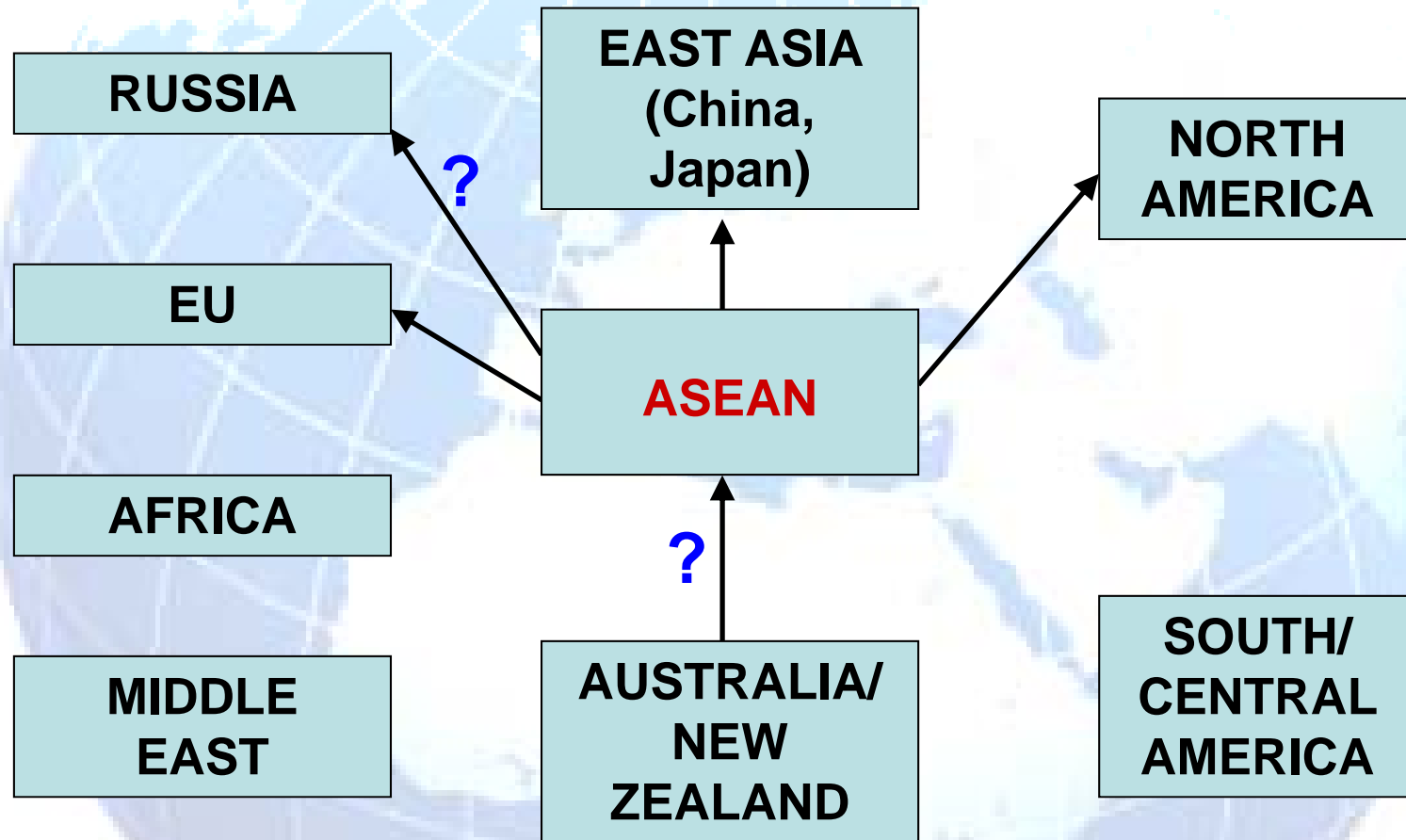
Supplier to ASEAN

Internal: Thailand, Philippines, Malaysia

External: Australia?

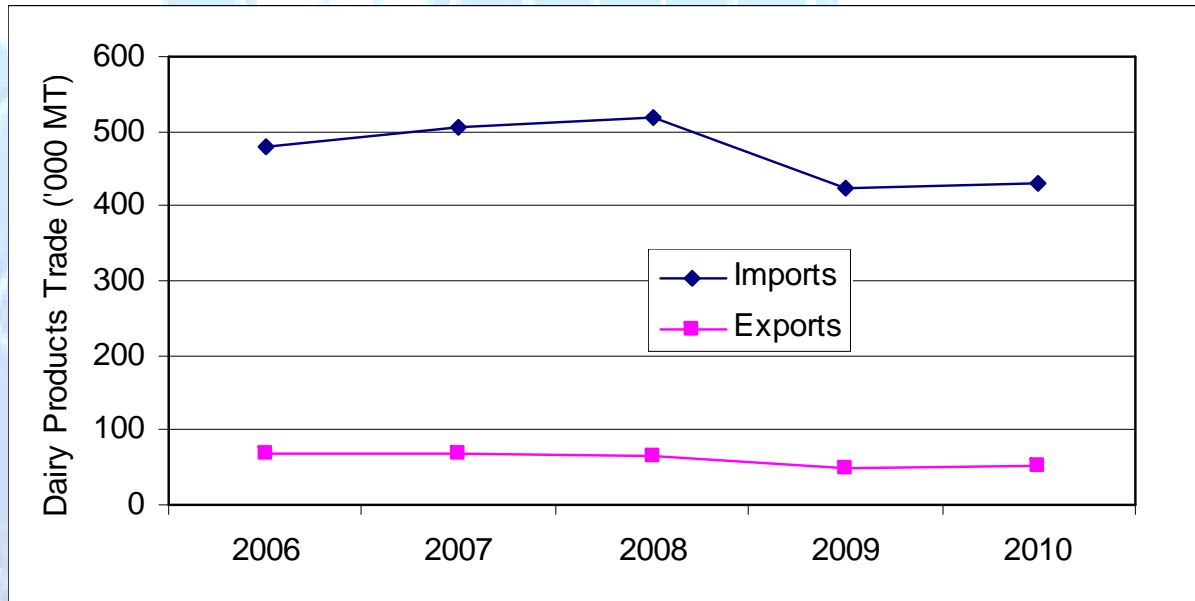
Large importers: Indonesia, Malaysia, Vietnam

ASEAN TRADE FLOW: **Sugar**



Dairy: Net importer

ASEAN Dairy Products* Trade, 2006-2010



•include butter, cheese, dry whole milk powder, milk fluid, and nonfat dry milk

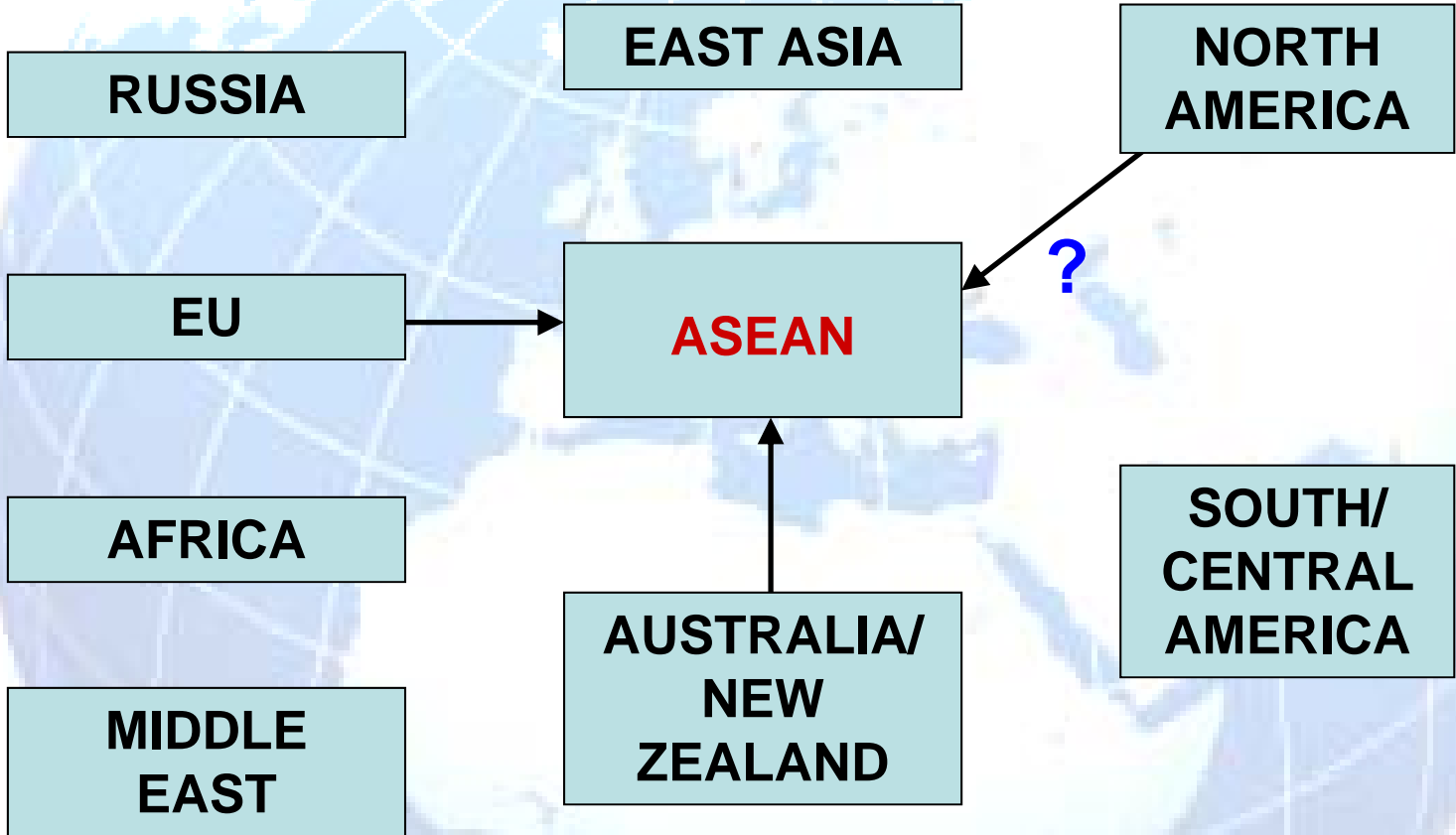
Source of basic data: USDA

Supplier to ASEAN

Internal: Philippines (re-export)

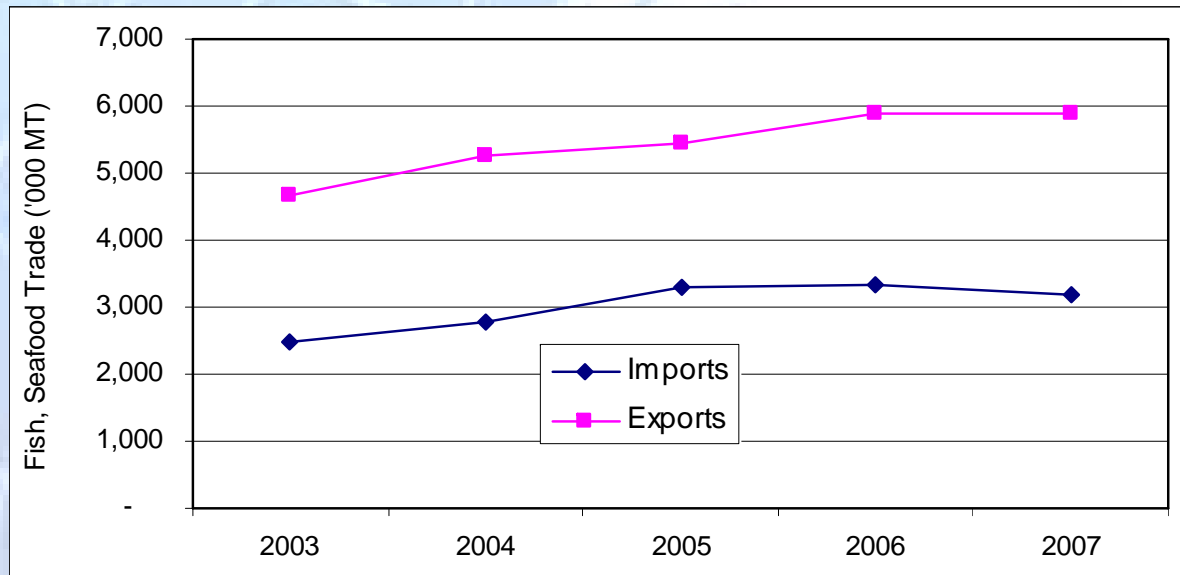
External: New Zealand, Australia, US, EU

ASEAN TRADE FLOW: Dairy



Fish/Seafood : Net exporter

ASEAN Fish, Seafood* Trade, 2003-2007



* includes freshwater fish, demersal fish, pelagic fish, other marine fish, crustaceans, cephalopods, other molluscs

Source: FAO



Tuna: net exporter

Supplier to ASEAN

Internal: Thailand, Philippines, Indonesia

**External: Japan and Taiwan– fishing fleets
(raw fish)**

Catfish: net exporter

Supplier to ASEAN

Internal: Vietnam



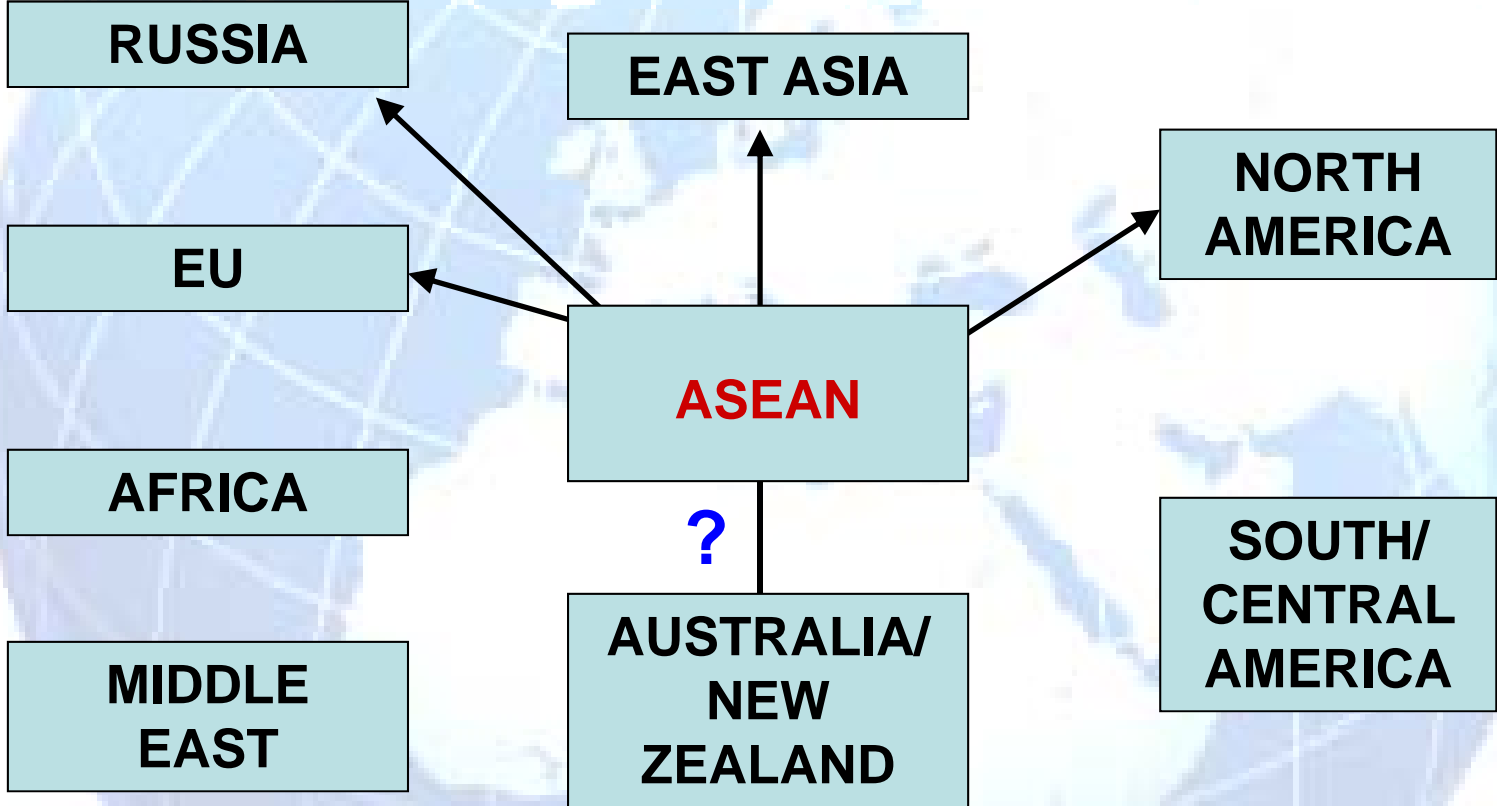
Shrimp: net exporter

Supplier to ASEAN

Internal: Thailand, Vietnam, Indonesia

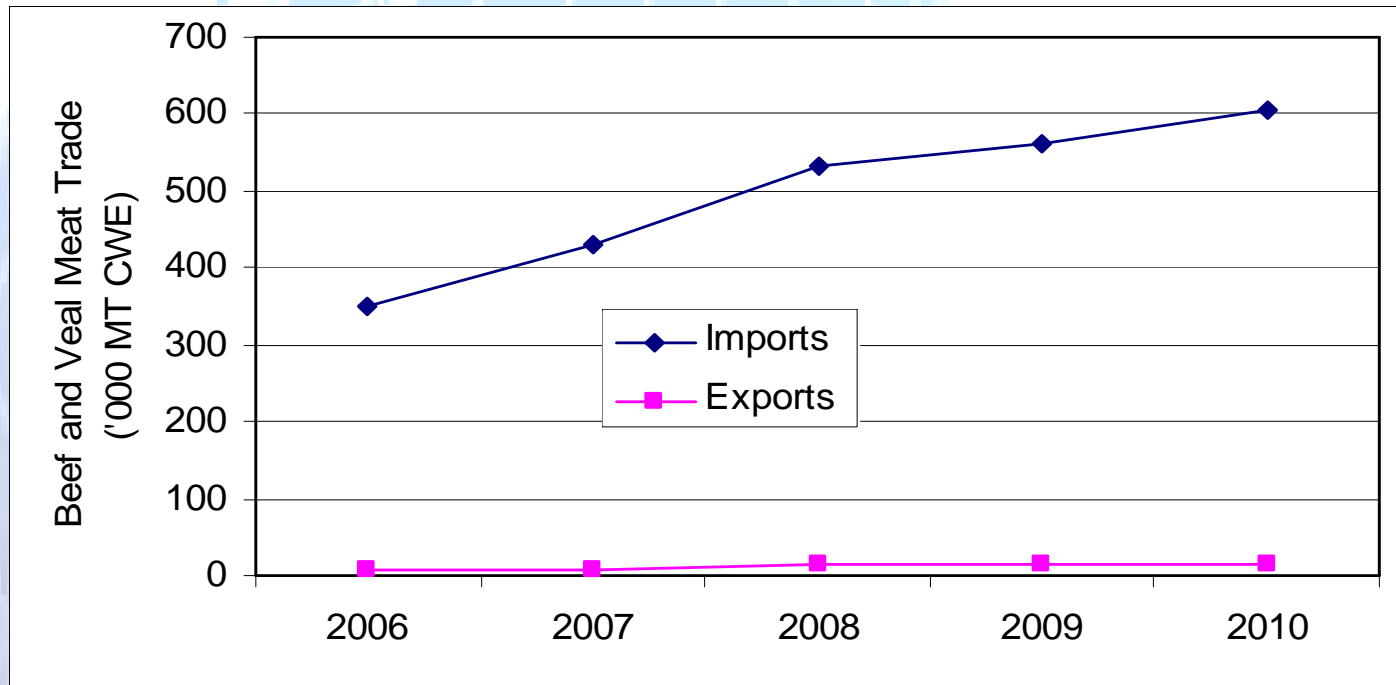
**The above 3 plus Malaysia, Myanmar and
the Philippines are exporters**

ASEAN TRADE FLOW: Fish/Seafood



Beef: net importer

ASEAN Beef Trade, 2006-2010

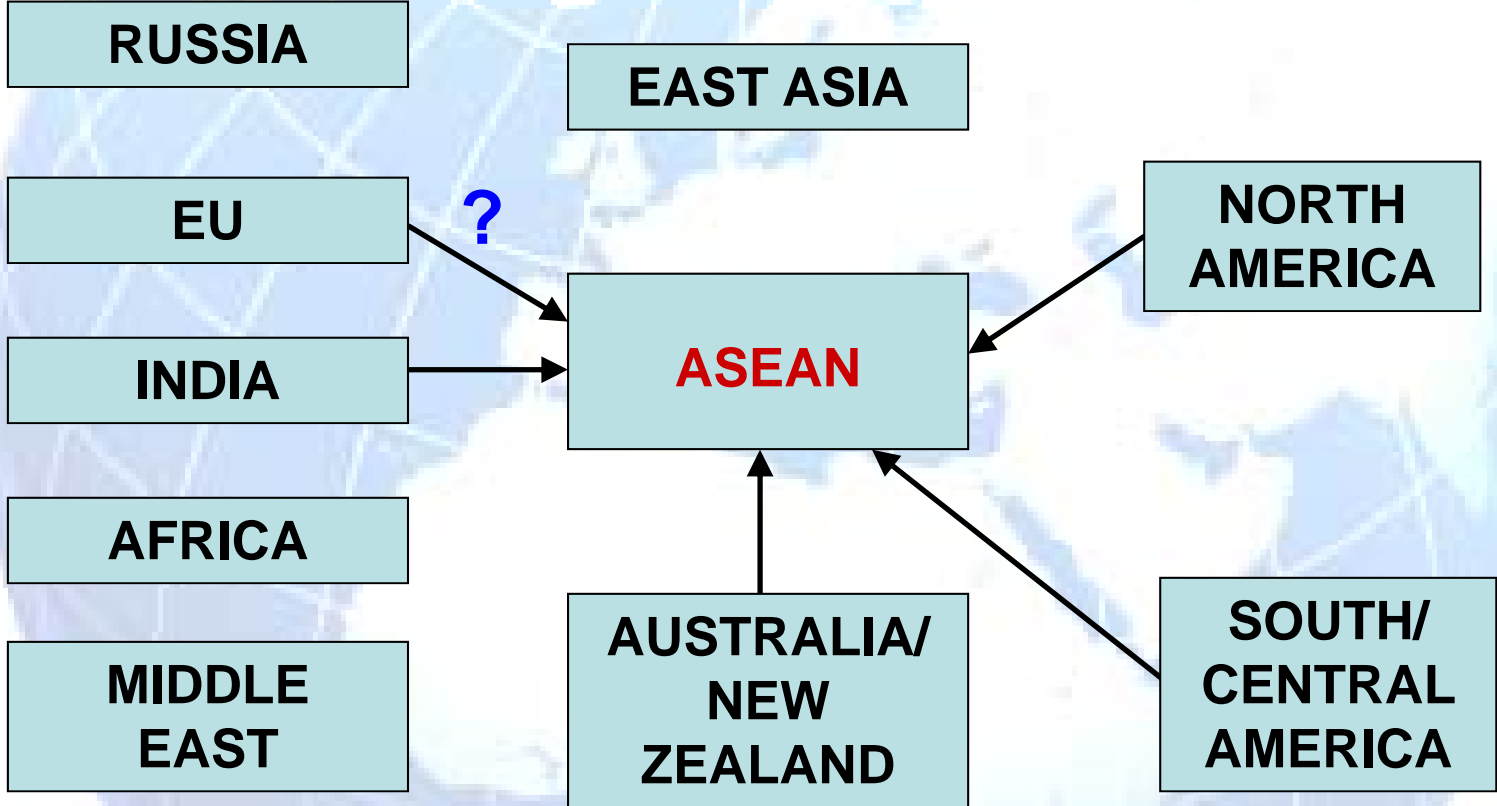


Source of basic data: USDA

Supplier to ASEAN

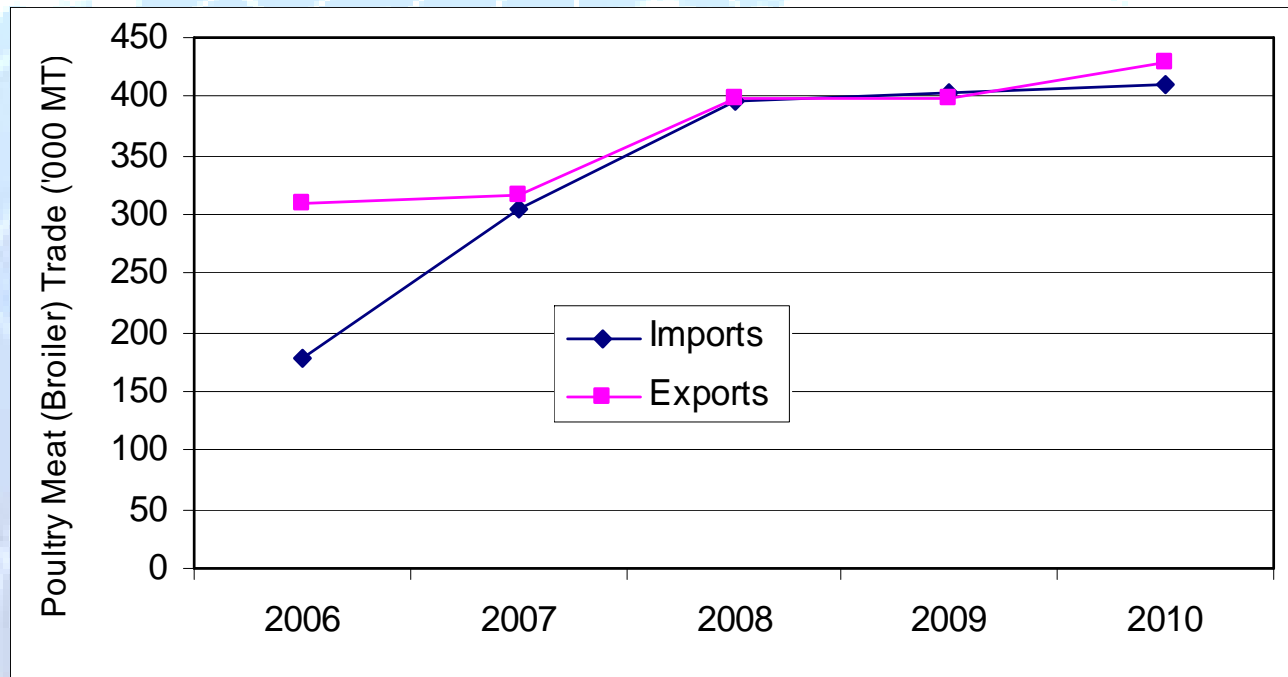
External: Australia, India, New Zealand, US, etc.

ASEAN TRADE FLOW: Beef



Chicken: Net exporter

ASEAN Poultry Meat (Broiler) Trade, 2006-2010



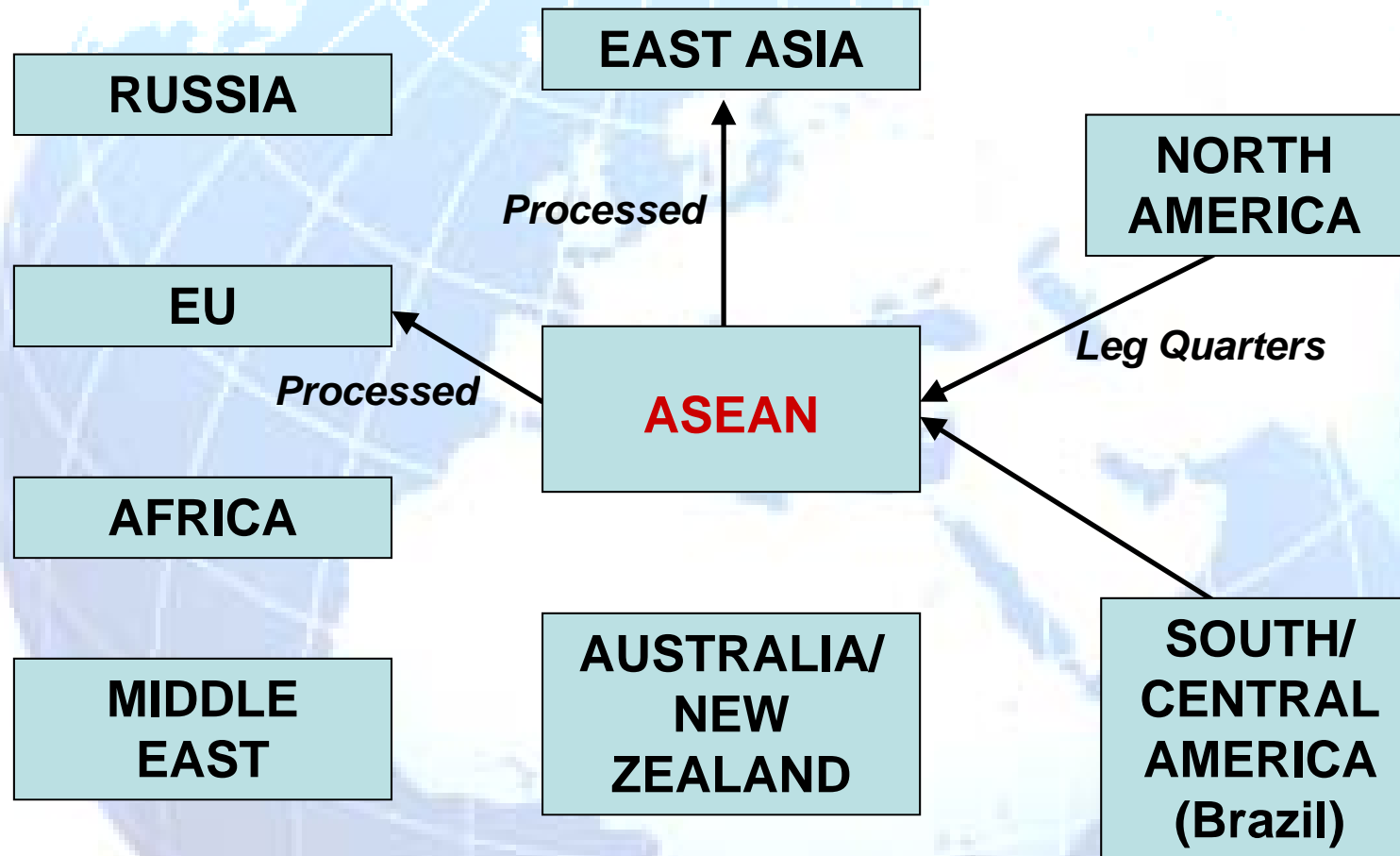
Source of basic data: USDA

Supplier to ASEAN

Internal: Thailand (3rd world largest exporter)

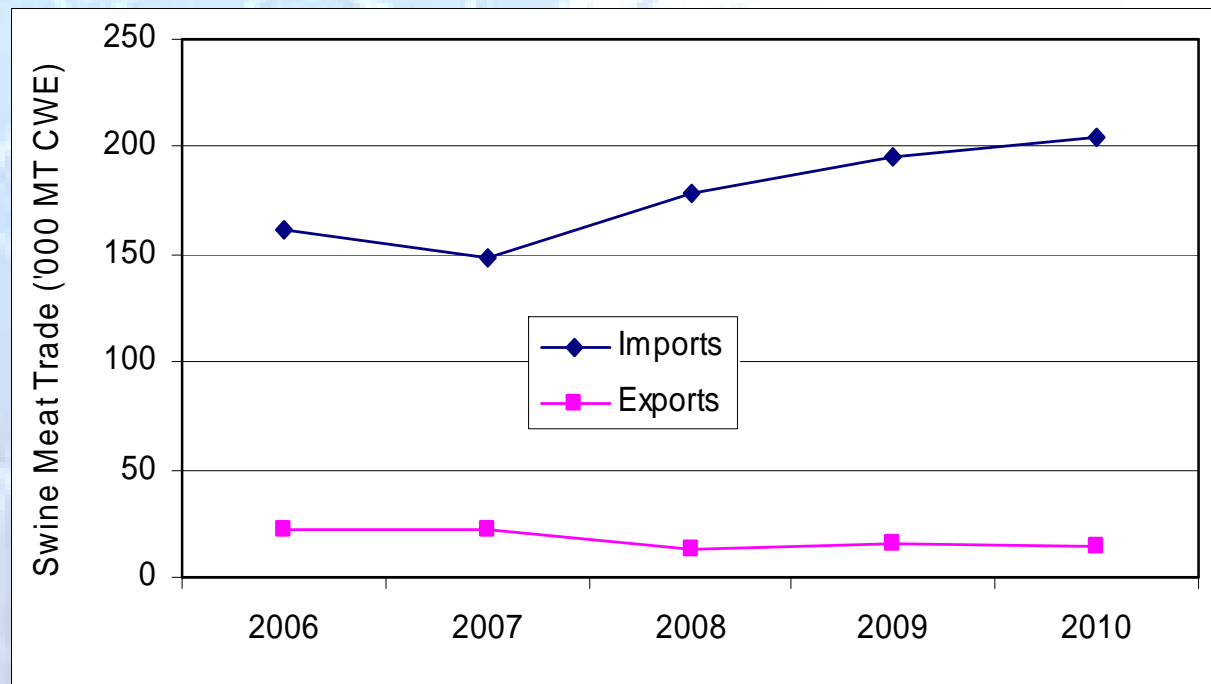
External: US, Brazil

ASEAN TRADE FLOW: Chicken



Pork: Net importer

ASEAN Pork Trade, 2006-2010

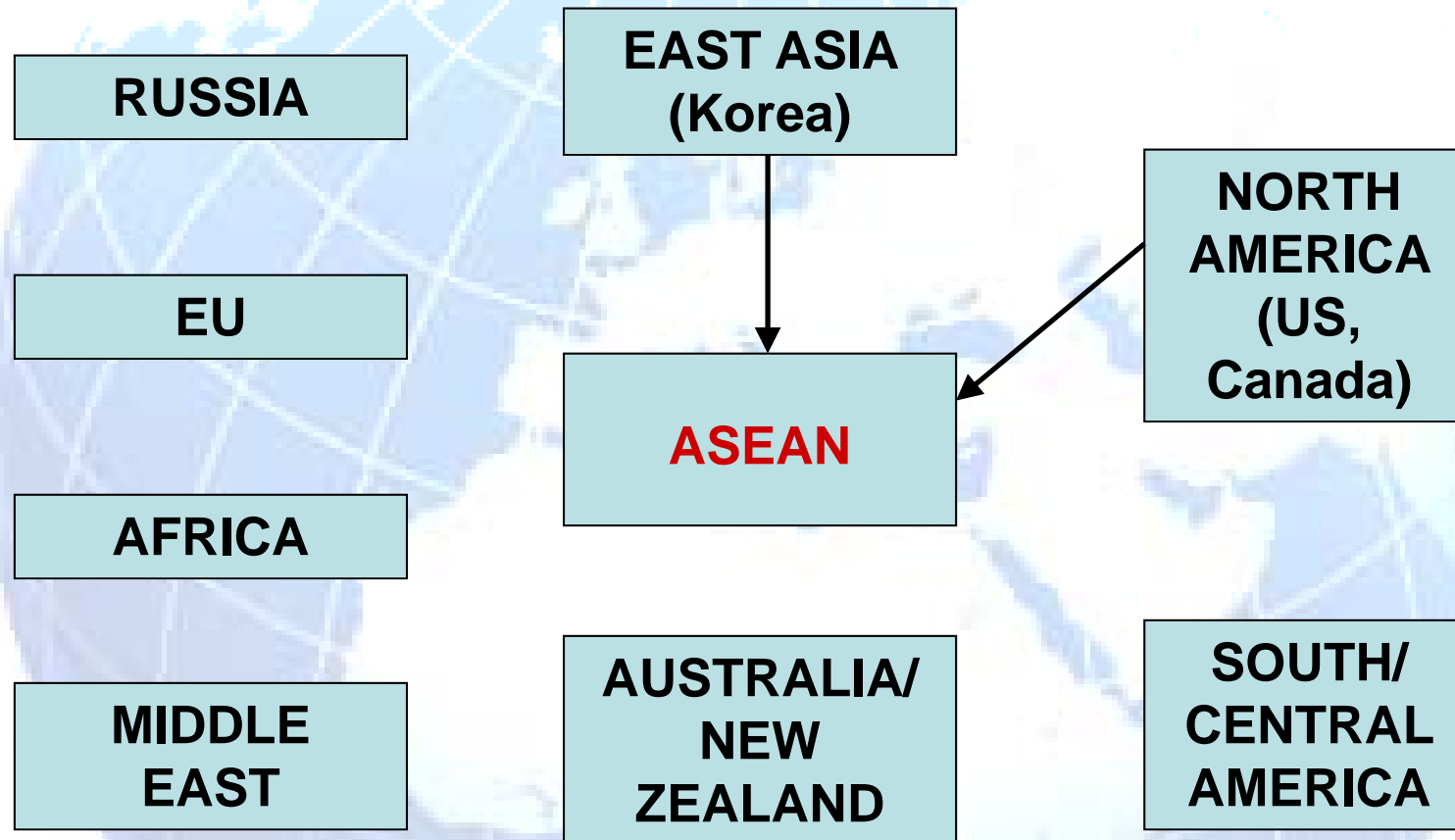


Source of basic data: USDA

Supplier to ASEAN

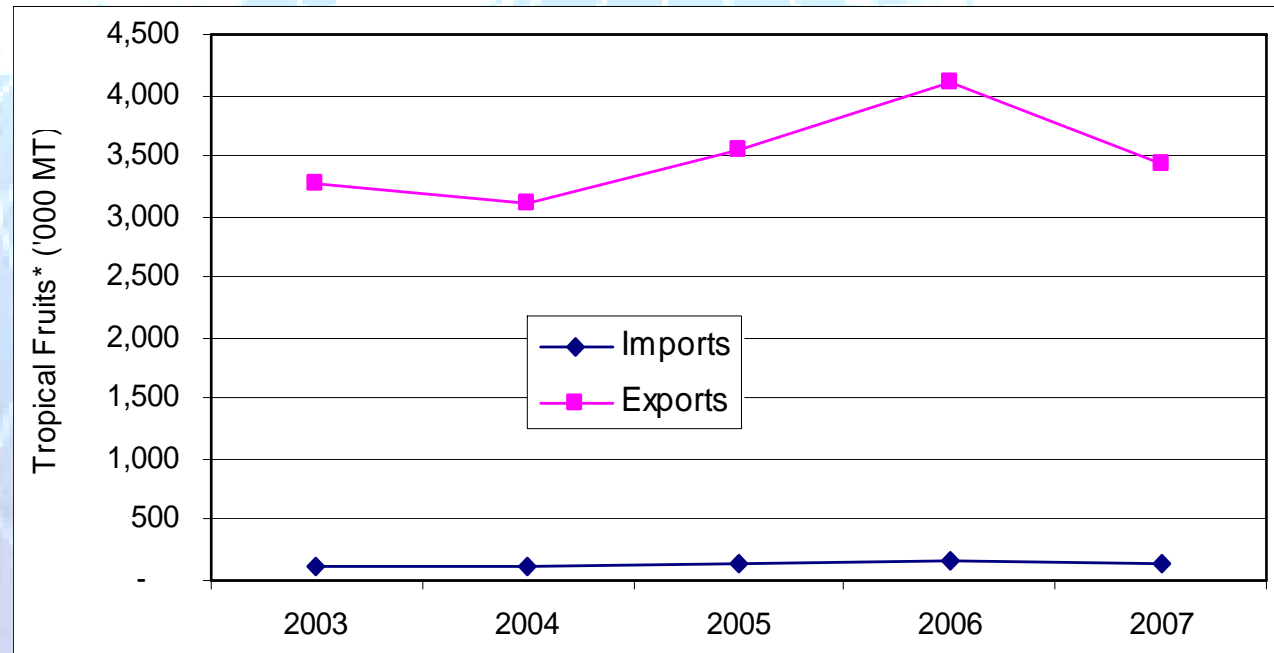
External: US, Canada, Korea

ASEAN TRADE FLOW: **Pork**



Tropical fruits: Net exporter

ASEAN Tropical Fruits* Trade, 2003-2007



* fresh (bananas, pineapple and pineapple products, and mangoes, mangosteens and guavas) and processed (mango pulp, mango juice, pineapple concentrates, canned pineapples); excludes longans, durian, rambutan, etc.

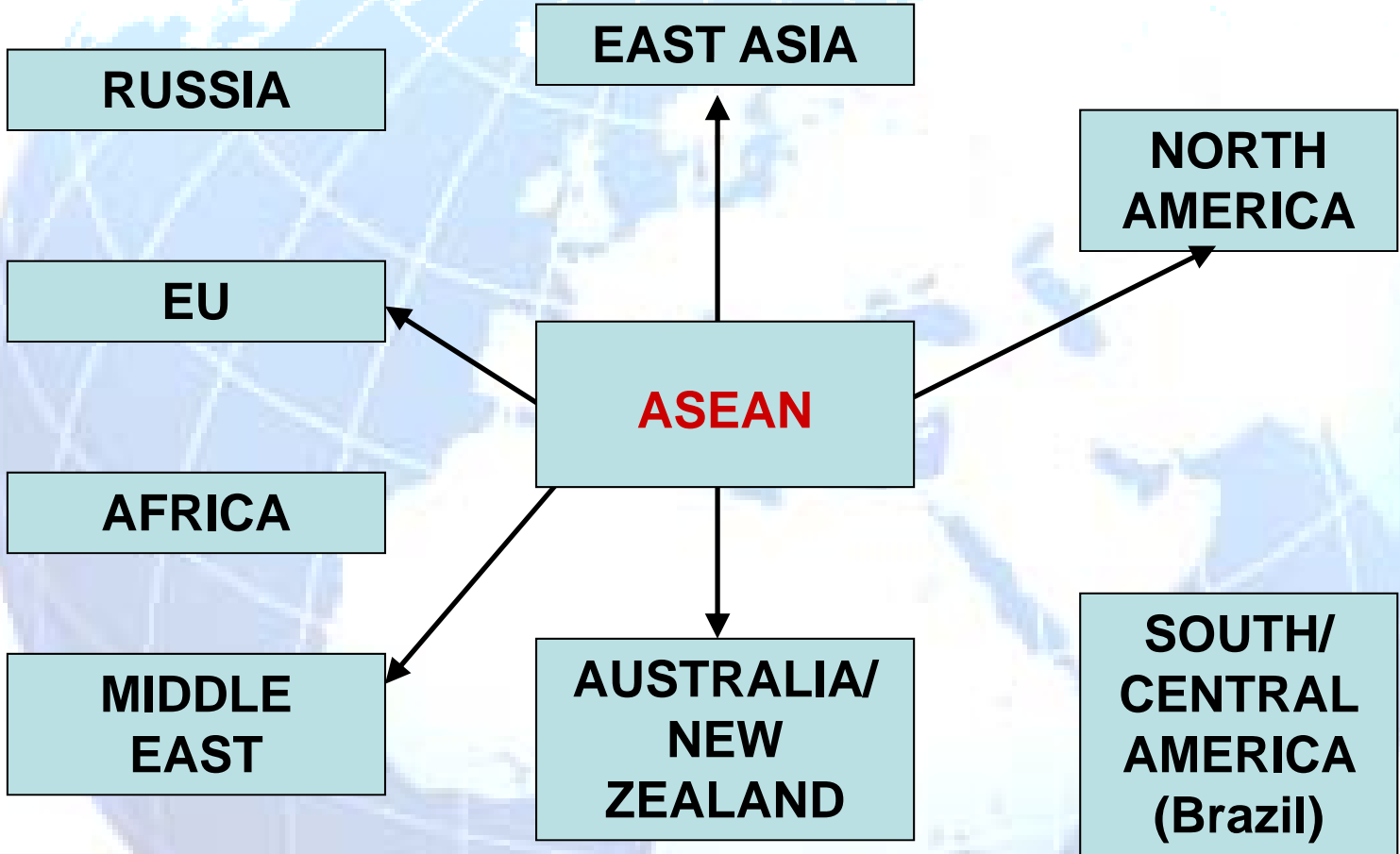
Source of basic data: FAO

Supplier to ASEAN

Internal: Malaysia, Philippines, Thailand, Indonesia
Vietnam

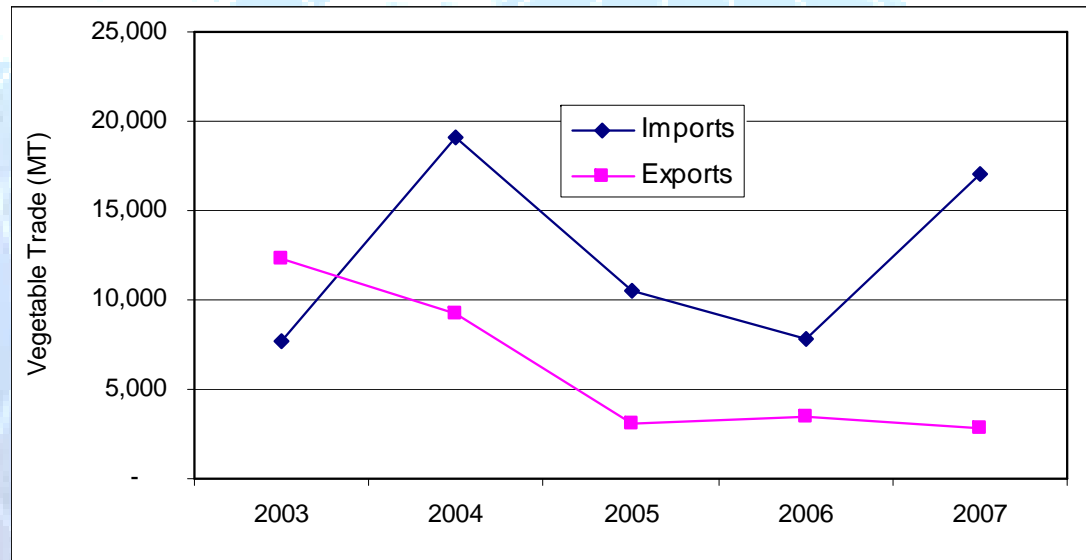
External: Nil

ASEAN TRADE FLOW: Tropical Fruits



Vegetables (fresh or dried): net importer?

ASEAN Vegetable* Trade, 2003-2007



* Vegetable products (fresh or dried)

Note: ***Includes import data for the Philippines and Thailand which are highly questionable.***

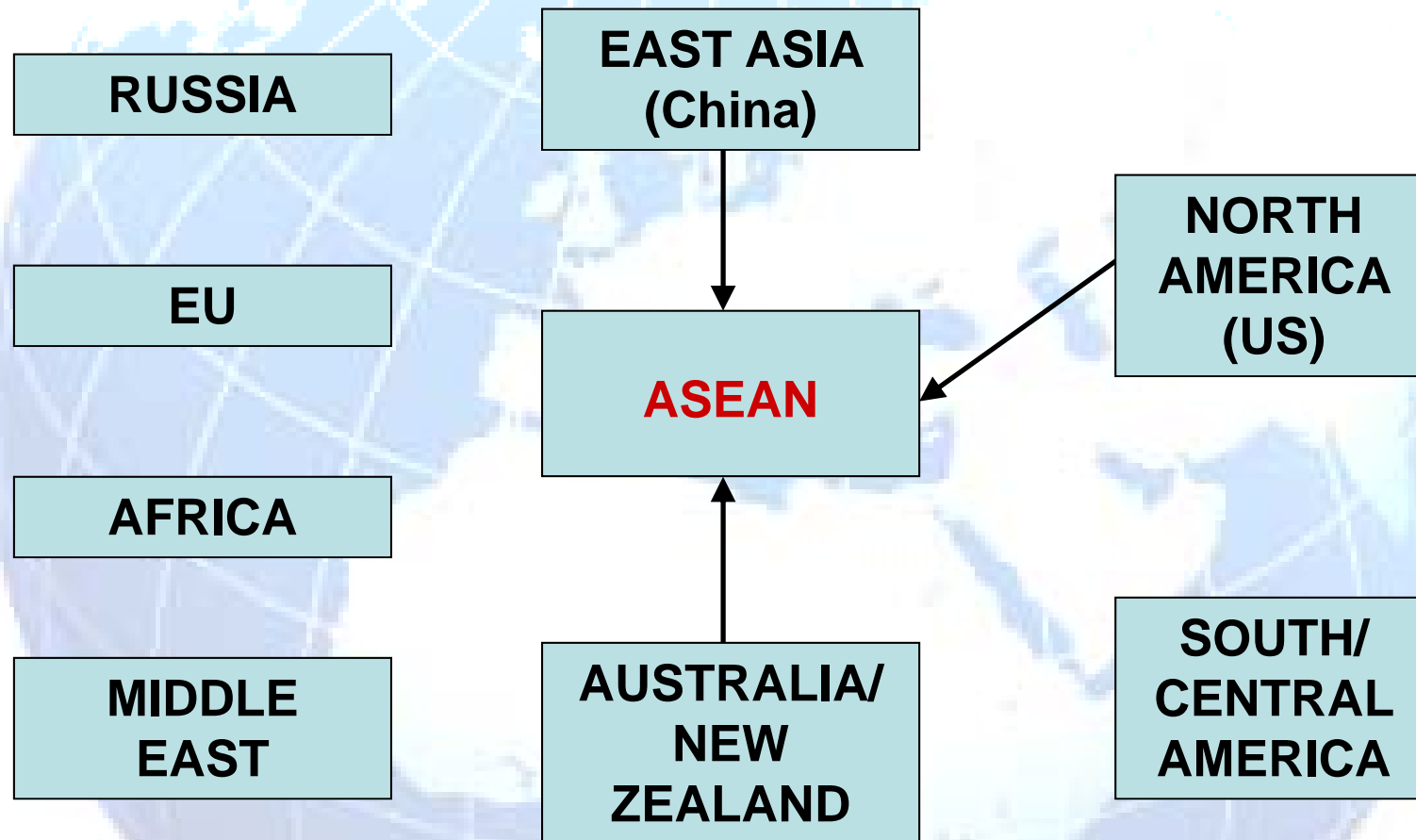
Source of basic data: FAO

Supplier to ASEAN

Internal: Indonesia? Malaysia, Philippines, Thailand?

External: China, Australia, New Zealand

ASEAN TRADE FLOW: **Vegetables**





THREATS TO GLOBAL FOOD SECURITY

(From Many Voices)

- **Climate change**
- **Scarcity of oil, land, nutrients and water**
(<http://www.euractiv.com/en/cap/europe-global-food-security/article-179097>)
- **Bio-fuel production**
(www.ghanadot.com/news.ghanadot.kunateh.062609e.html)
- **Killer wheat fungus (Ug99)**
(<http://www.irinnews.org/report.aspx?ReportId=77474>)



THREATS TO GLOBAL FOOD SECURITY

(From Many Voices)

- **Small farmers' limited access to assets (land, water, machinery), knowledge, affordable credit, and risk-management mechanisms**
(www.dbresearch.com)
- **Algal blooms (red tide, toxic plankton)**
(http://www2.unitar.org/hiroshima/programmes/shs06/materials/Fukuyo_Threats_to_Food_Security.pdf)
- **Scarcity of phosphorous: fertilizer ingredient**
(<http://www.sciencedaily.com/releases/2010/03/100311092124.htm>)
- **Overfishing and marine pollution**
(<http://www.sciencealert.com.au/features/20101804-20862.html>)

Note: Phosphorous is extracted from phosphate rock, a non-renewable resource that is used almost exclusively in agriculture. Two thirds of the world's resources are in China, Morocco, and Western Sahara.



THE GLOBAL CHAIN HELPS ENSURE FOOD SECURITY IN FOOD-IMPORTING COUNTRIES

- **Consolidates production from many sources**
- **Helps boost yields of small farmers**
- **Invests in sophisticated, reliable logistics (e.g. cold chain)**
- **Supplies quality foods**
- **Invests in R & D**
- **Shares public information**

WAYS TO SAFEGUARD THE GLOBAL SUPPLY CHAIN

- **Eliminate trade barriers (Tariff and NTBs)**
- **Prevent terrorist/pirate attacks on supply chain (e.g. shipping, shipping lanes)**
- **Share best/good practices in post-harvest and storage management**
- **Integrate more small farmers to global supply chain**

(450 million farms are less than two hectares – FAO)

Acknowledgment: Agribusiness and hunger – Threat to global food security drives collaborative business models .DB Research, February 12, 2010

WAYS TO SAFEGUARD THE GLOBAL SUPPLY CHAIN

- **Invest in neighboring countries with high potential**
- **Study Asian rice stockpile in Australia (*Peter Timmer, 2010*)**
- **Address biological risks/epidemic – wheat rust, etc.**
- **Increase public R&D spending**



RESEARCHABLE ISSUES FOR PUBLIC-PRIVATE PARTNERSHIP (PPP)

- **AUSTRALIA as Asian food security warehouse for rice**
- **Food production potential of Laos, Cambodia and Myanmar**
- **What if water crisis hits in ASEAN? Impact on food security?**
- **Food estates in land-rich countries (wave of the future?)**



RESEARCHABLE ISSUES FOR PUBLIC-PRIVATE PARTNERSHIP (PPP)

- **Trends in ASEAN Agri-Food R &D over the last 10 years**
- **ASEAN response system to global plant/animal disease epidemic**
- **Benchmarking agribusiness models**
- **Environmental damage of large monoculture production?** (DB Research, 2010)



Thank You!
Maraming Salamat!
Terima kasih!



ANNEXES

ASEAN TRADE BALANCE: Rice

'000 MT; Average: 2006/2007 – 2010/2011

Country	Production	Export	Import	Trade Bal
Brunei	1		36	(36)
Cambodia	4,457	690	60	630
Indonesia	37,880	6	620	(614)
Lao PDR	1,740		26	(26)
Malaysia	1,517	4	963	(959)
Philippines	10,313		2,334	(2,334)
Singapore			312	(312)
Thailand	19,760	9,528	192	9,336
Vietnam	24,164	5,334	450	4,884
Total	99,832	15,562	4,993	10,569

Source: USDA

ASEAN TRADE BALANCE: Wheat

'000 MT; Average: 2006/2007 – 2010/2011

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia		171	5,509	(5,338)
Lao PDR				
Malaysia			1,262	(1,262)
Philippines		96	2,904	(2,808)
Singapore		29	332	(303)
Thailand		102	1,198	(1,096)
Vietnam		138	1,355	(1,217)
Total		536	12,560	(12,024)

Source: USDA

ASEAN TRADE BALANCE: Soybeans

'000 MT; Average: 2003 - 2007

Country	Production	Export	Import	Trade Bal
Brunei		-	0.2	(0.2)
Cambodia	114	17	0.4	16
Indonesia	709	2	1,354	(1,352)
Lao PDR	9	0.1	-	0.1
Malaysia	-	19	670	(650)
Myanmar	176	3	-	3
Philippines	1	-	196	(195)
Singapore		2	21	(19)
Thailand	219	1	1,534	(1,533)
Viet Nam	258	15	36	(21)
Total	1,486	59	3,811	(3,752)

Source: FAO

ASEAN TRADE BALANCE: Soybean meal

'000 MT; Average: 2006/2007 – 2010/2011

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia			2,411	(2,411)
Lao PDR				
Malaysia	276	31	951	(920)
Myanmar				
Philippines	50	1	1,318	(1,317)
Singapore	14	2	21	(19)
Thailand	1,156		2,184	(2,184)
Viet Nam			2,582	(2,582)
Total	1,497	34	9,467	(9,433)

Source: USDA

ASEAN TRADE BALANCE: Maize

'000 MT; Average: 2006/2007 – 2010/2011

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia	577	260	1	259
Indonesia	8,350	74	516	(442)
Lao PDR	981	220	3	217
Malaysia	94	15	2,658	(2,643)
Philippines	6,678		271	(271)
Singapore			38	(38)
Thailand	4,030	677	490	187
Vietnam	4,813	2	950	(948)
Total	25,523	1,249	4,927	(3,678)

Source: USDA

ASEAN TRADE BALANCE: Sugar

'000 MT; Average: 2006/2007 – 2010/2011

Country	Production	Export	Import	Trade Bal
Brunei			11	(11)
Cambodia			253	(253)
Indonesia	1,955		2,385	(2,385)
Lao PDR			36	(36)
Malaysia	31	254	1,505	(1,251)
Philippines	2,197	207	30	177
Singapore		137	412	(275)
Thailand	7,166	5,023		5,023
Vietnam	1,053	11	416	(405)
Total	12,402	5,631	5,049	582

Source: USDA

ASEAN TRADE BALANCE: Dairy

'000 MT; Average: 2006–2010

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia	52	6	201	(195)
Lao PDR				
Malaysia		5	43	(38)
Philippines	19	48	190	(142)
Singapore				
Thailand		1	38	(37)
Vietnam				
Total	71	60	472	(412)

Source: USDA

ASEAN TRADE BALANCE: Fish, Seafood

'000 MT; Average: 2003–2007

Country	Production	Export	Import	Trade Bal
Brunei	3	-	10	(10)
Cambodia	388	55	4	52
Indonesia	5,907	958	336	622
Lao PDR	103	-	8	(8)
Malaysia	1,421	434	490	(56)
Myanmar	2,045	405	5	400
Philippines	2,807	223	331	(109)
Thailand	3,974	2,351	1,374	978
Vietnam	3,185	1,003	456	547
Total	19,832	5,430	3,014	2,416

Source: FAO

ASEAN TRADE BALANCE: Beef

'000 MT; Average: 2006–2010

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia				
Lao PDR				
Malaysia	27	3	154	(151)
Myanmar				
Philippines	221	2	140	(138)
Singapore		6	33	(27)
Thailand				
Vietnam	248	1	169	(168)
Total	496	12	496	(484)

Source: USDA

ASEAN TRADE BALANCE: Chicken Meat

'000 MT; Average: 2006–2010

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia	836		4	(4)
Lao PDR				
Malaysia	938	3	30	(27)
Myanmar				
Philippines	695	5	50	(45)
Singapore	58	17	111	(94)
Thailand	1,152	346		346
Vietnam	346		143	(143)
Total	4,025	370	338	32

Source: USDA

ASEAN TRADE BALANCE: Pork

'000 MT CWE; Average: 2006–2010

Country	Production	Export	Import	Trade Bal
Brunei				
Cambodia				
Indonesia				
Lao PDR				
Malaysia				
Myanmar				
Philippines	1,228	1	44	(43)
Singapore	19	1	97	(96)
Thailand				
Vietnam	1,819	15	37	(22)
Total	3,066	17	177	(160)

Source: USDA

ASEAN TRADE BALANCE: Tropical fruits*

'000 MT; Average: 2003-2007

Country	Production	Export	Import	Trade Bal
Brunei	2	-	3	(3)
Cambodia	183			-
Indonesia	7,924	178	1	177
Lao PDR	89			-
Malaysia	874	71	30	41
Myanmar		-	-	-
Philippines	9,566	2,509	0	2,509
Singapore	-	27	91	(64)
Thailand	6,130	651	6	645
Vietnam	2,129	57	-	57
Total	26,896	3,493	132	3,361

* bananas, mangoes, mangosteens and guavas, and pineapples

Note: Production – in fresh form only; 2003-2008

Exports and imports – fresh and processed (mango pulp, mango juice, pineapple concentrates, canned pineapples)

Source of basic data: FAO

ASEAN TRADE BALANCE: Vegetables

MT; Average: 2003-2007

Country	Production	Export	Import	Trade Bal
Brunei	7		23	(23)
Cambodia	481	18	229	(210)
Indonesia	585	622	171	451
Lao PDR	678		60	(60)
Malaysia	250	4,429	188	4,241
Myanmar	3,092		633	(633)
Philippines	3,983	119	4,737	(4,618)
Singapore	12	15	23	(8)
Thailand	1,009	933	6,379	(5,446)
Vietnam	6,529			
Total	16,626	6,136	12,443	(6,307)

Note: Import data for the Philippines and Thailand are highly questionable.

Production – in fresh form only; 2003-2008; Exports and imports – fresh and dried

Source of basic data: FAO