



# Food Safety Challenges and Opportunities for Developing Countries

## *Case of Indonesia*

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# Food Safety ?

A condition and/or effort such that foods do not contain biological, chemical or physical hazards at level that can cause adverse effects on human's health



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# Food Safety ?

“... access to nutritionally adequate and **SAFE** food is a right of each individual.”

*[FAO/WHO World Declaration on Nutrition 1992]*





# Food Safety ?

“... access to nutritionally adequate and **SAFE** food is a right of each individual.”

*[FAO/WHO World Declaration on Nutrition 1992]*

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

*[FAO. 1996]*



# Food Safety ?

- Food safety is increasingly important
- Developing countries –**Indonesia**- pay more and more attention to food safety; due to its great potential impact on
  1. Public health,
  2. Food security, and
  3. Trade competitiveness



# Food Safety ?

INDONESIA? → Double Burden of Food Safety

**“DOMESTIC”  
FOOD SAFETY BURDEN**

**“INTERNATIONAL”  
FOOD SAFETY BURDEN**

?



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# Food Safety ?

INDONESIA? → Double Burden of Food Safety

**“Domestic”** problems of food safety

- The need to establish basic domestic food safety system and infrastructure

**International** problems of Food Safety

- The need to comply with international standards

?



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# Food Safety ? ... Domestic Issues?

Reported Foodborne Disease in Indonesia 2003-2009\*

Year	2003	2004	2005	2006	2007	2008	2009**
Outbreaks (#)	34	164	184	159	179	197	119
Cases (#)	1843	7366	8949	8733	7471	8943	3050

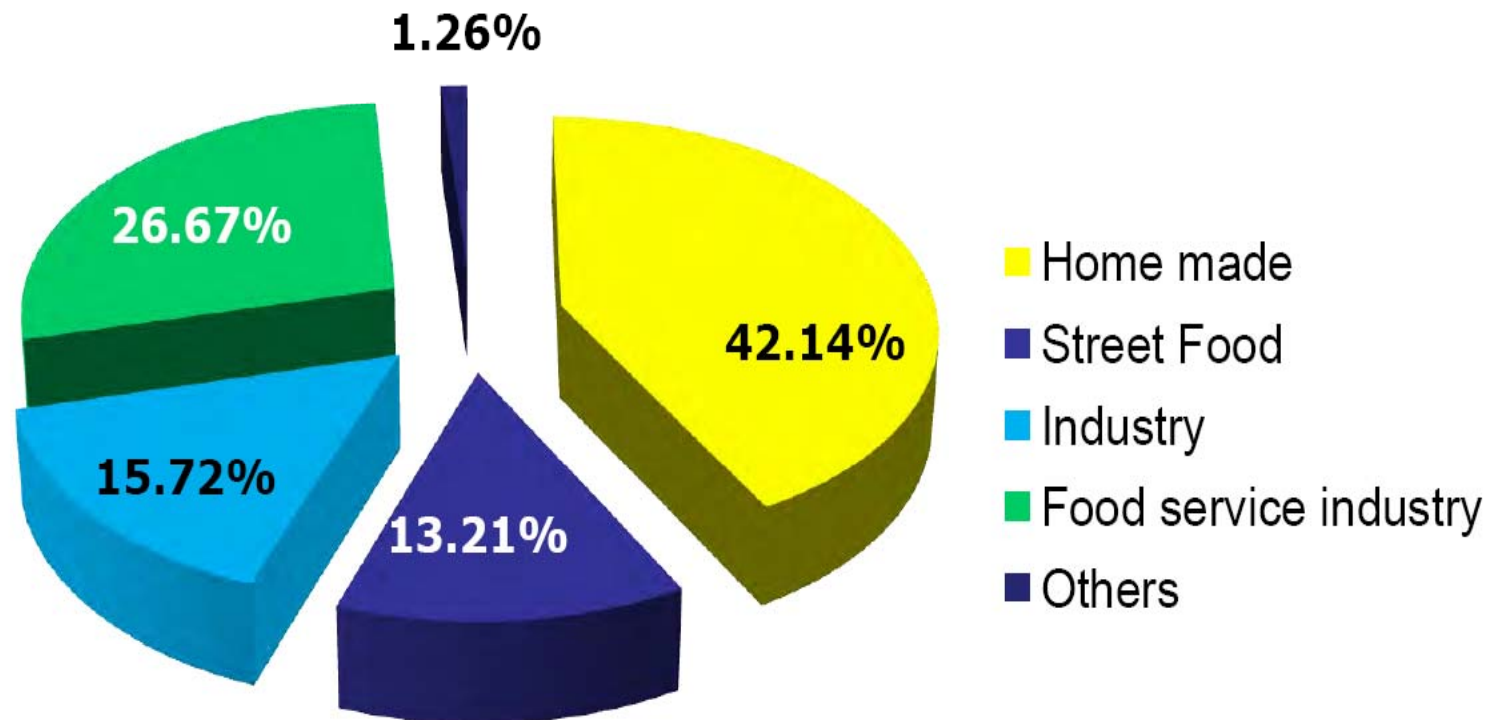
\* NAFDC, 2009

\*\*Incomplete



# Food Safety ? ... Domestic Issues?

Reported Foodborne Disease in Indonesia 2009\*

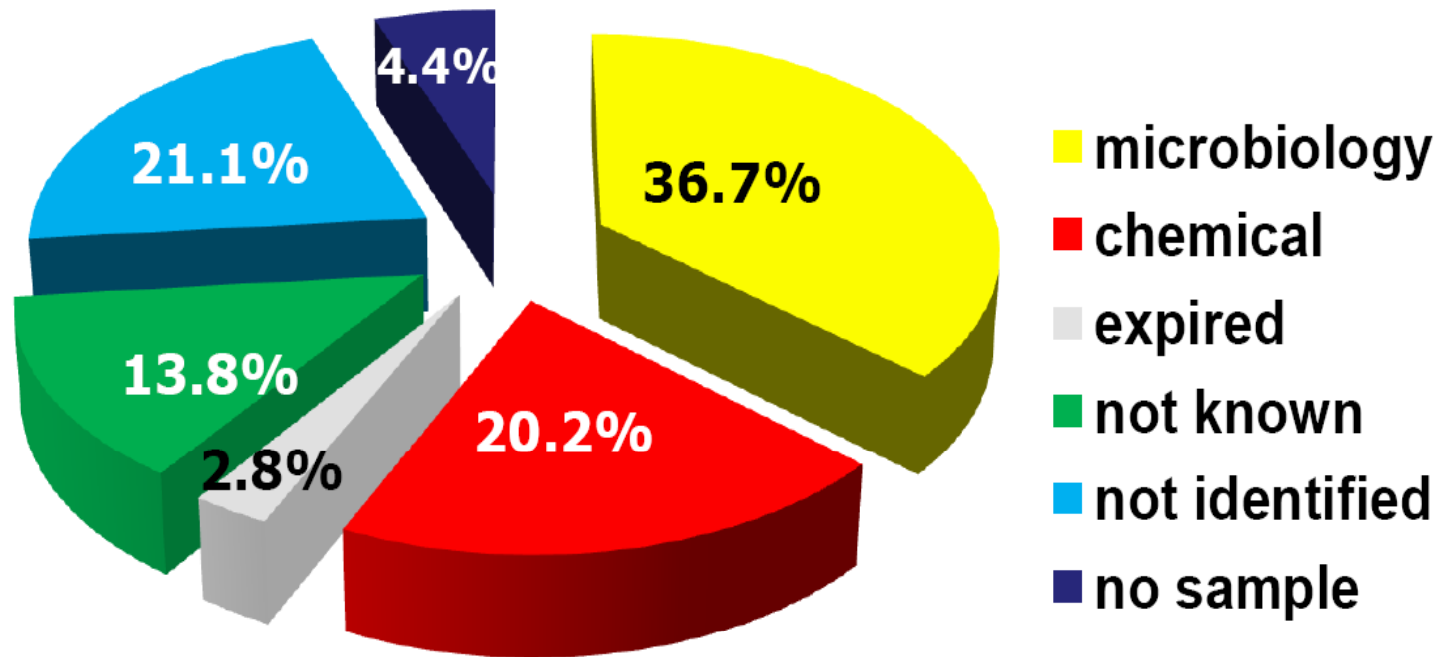


n = 119; Suratmono-NADFC (2009)



# Food Safety ? ... Domestic Issues?

Reported Foodborne Disease in Indonesia 2009\*



n = 119; Suratmono-NADFC (2009)





# Food Safety ? ... Domestic Issues?

## Challenges of “domestic” food safety

- Microbial problems → unsanitary conditions
- Uses of unsafe-chemicals
- Unsafe use of food additives



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# Food Safety ? ... Domestic Issues?

## Challenges of “domestic” food safety

- Roots of the problem?
  - Poverty → Lack of foods
  - Food production system is dominated by SMEs (and household industries)
    - Lack of basic food safety infrastructure (clean water, clean ice, cold chain, etc)
    - Lack capacity of human resources (producers, consumers, government officials)
    - Lack of funding



# Food Safety ? ... International Issues?



- Global food trade will likely increase due to expected increases in global income levels
- Consumers take advantage of lower prices and greater seasonal availability of some foods abroad.



# Food Safety ? ... International Issues?



- World Integrated Trade Solution Database  
(<http://wits.worldbank.org/wits/gptad.html>)

Already ~ 40% of all trade in food, agriculture, fisheries occurs between **developing & developed countries.**



# Food Safety ? ... International Issues?



- Driving force for trade is economic gain
  - International food trade is important for economy of developing country



# Food Safety ? ... International Issues?



- Driving force for trade is economic gain
  - International food trade is important for economy of developing country
- However, increasingly restrictive international food safety standard
  - limit market access
  - could incur significant export/income loss.



# Food Safety ? ... International Issues?

Indonesian raw material agr products of export  
(MOT RI, 2010)

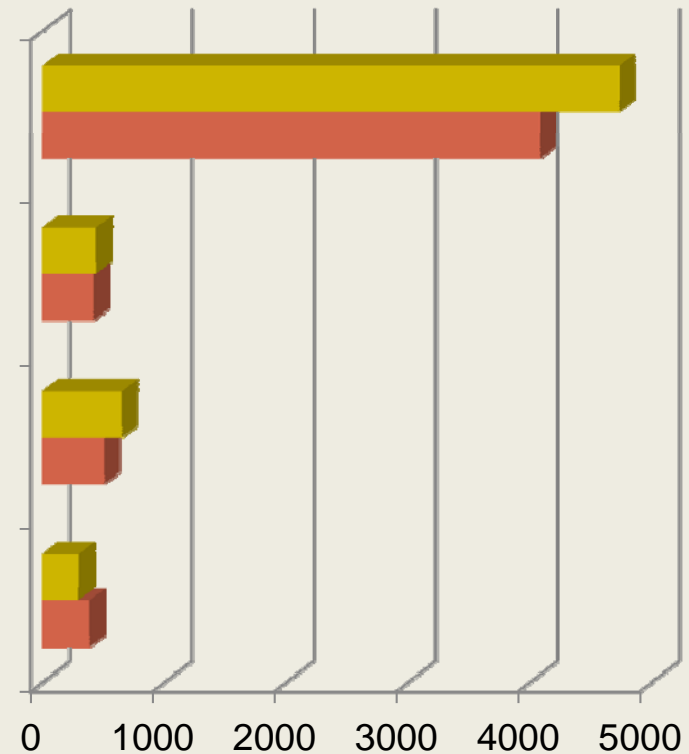
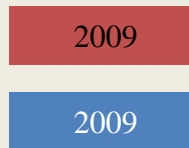


Palm and palm products

Shrimp

Cacao

Coffee



Million USD



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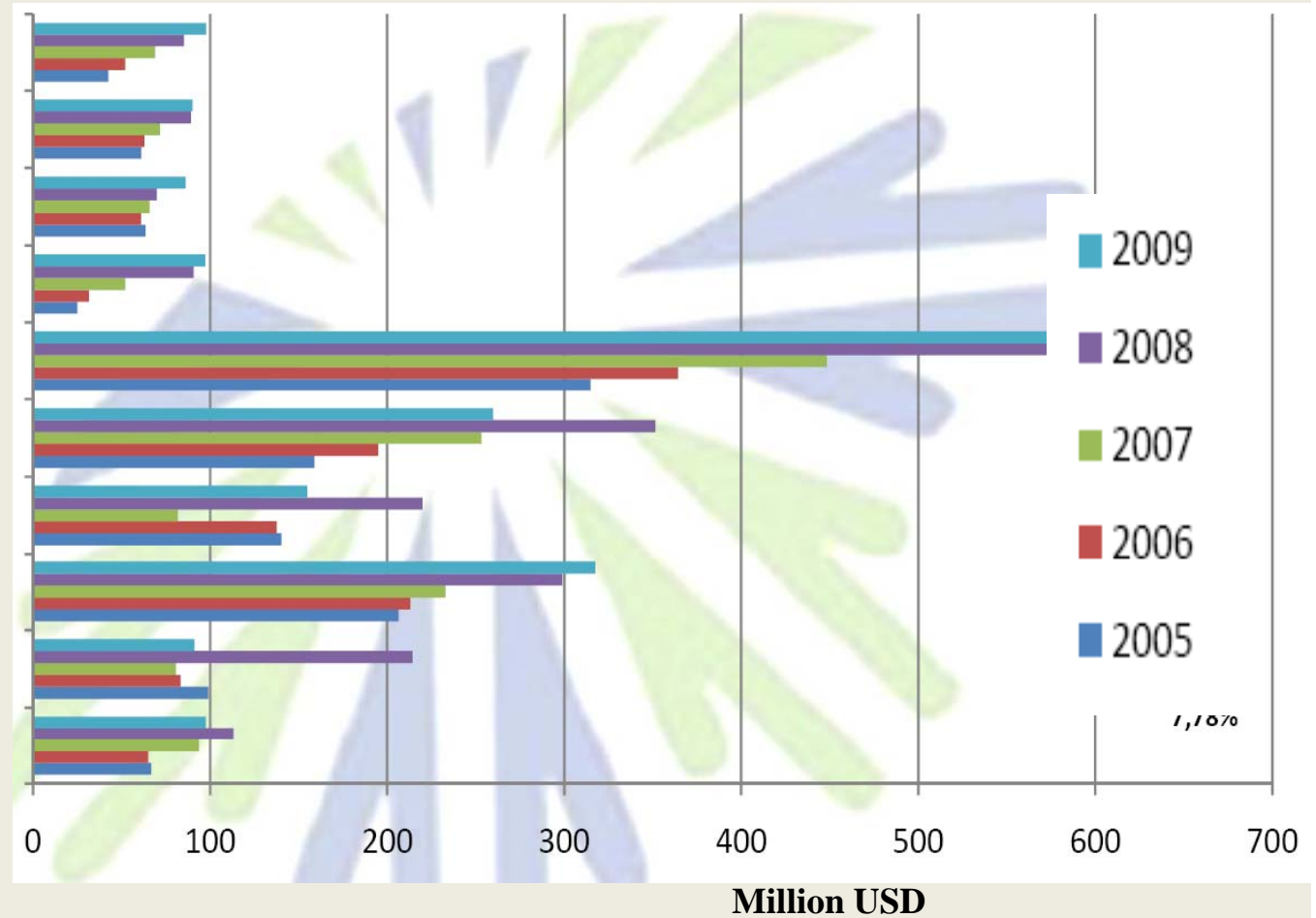
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# Food Safety ? ... International Issues?

Indonesian processed food products of export  
(MOT RI, 2010)



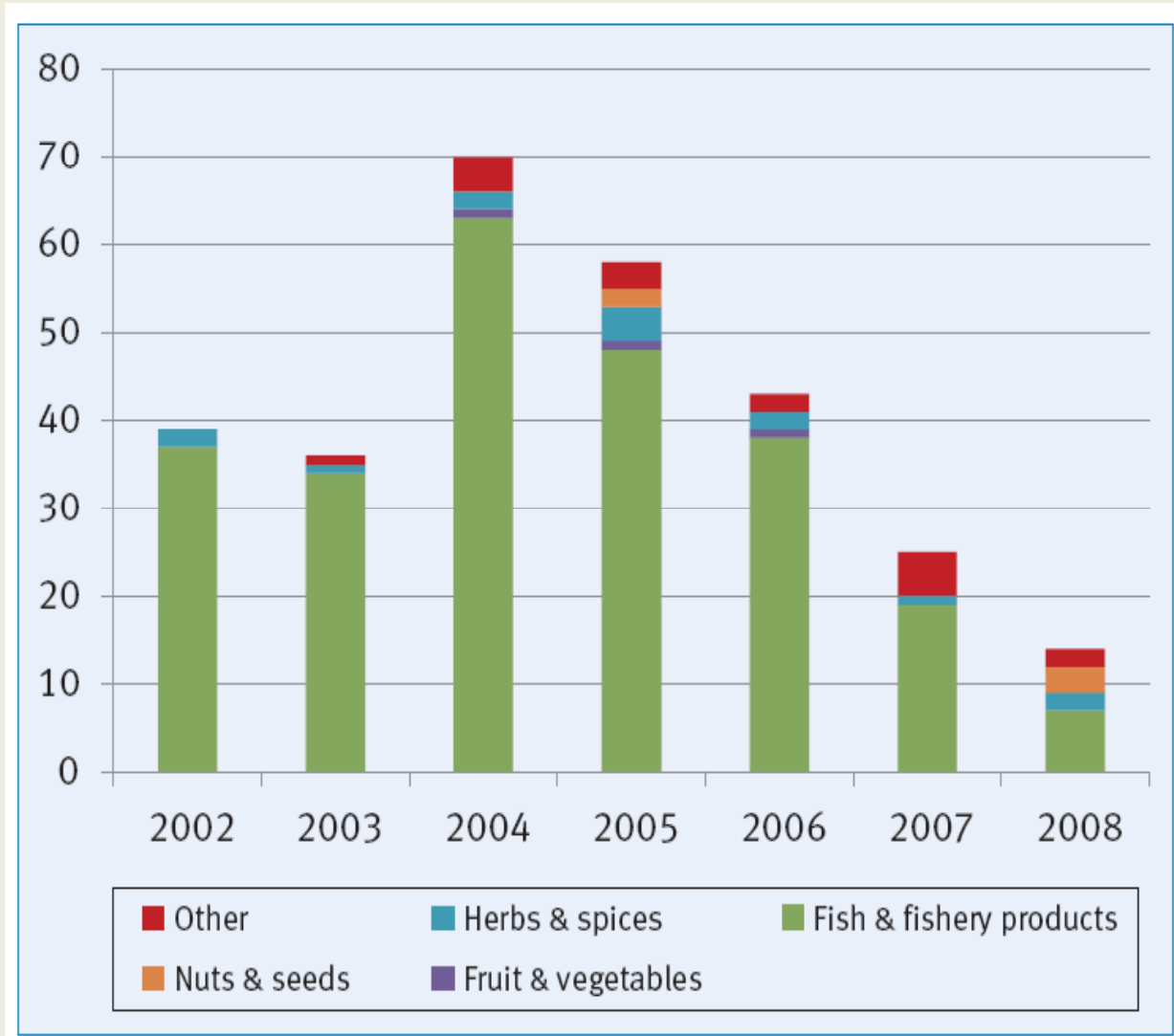
Others  
Beverages  
Confectionaries  
Tea & Coffee  
Meat & Fish  
Chocolate  
Fruits products  
Biscuits/Cereals  
Dairy Products  
Veg products



# Food Safety ? ... International Issues?

*The Trade Standards Compliance Report, 2010 (UNIDO)*

**Number of EU rejections of food and feed exports from Indonesia, 2002-2008**



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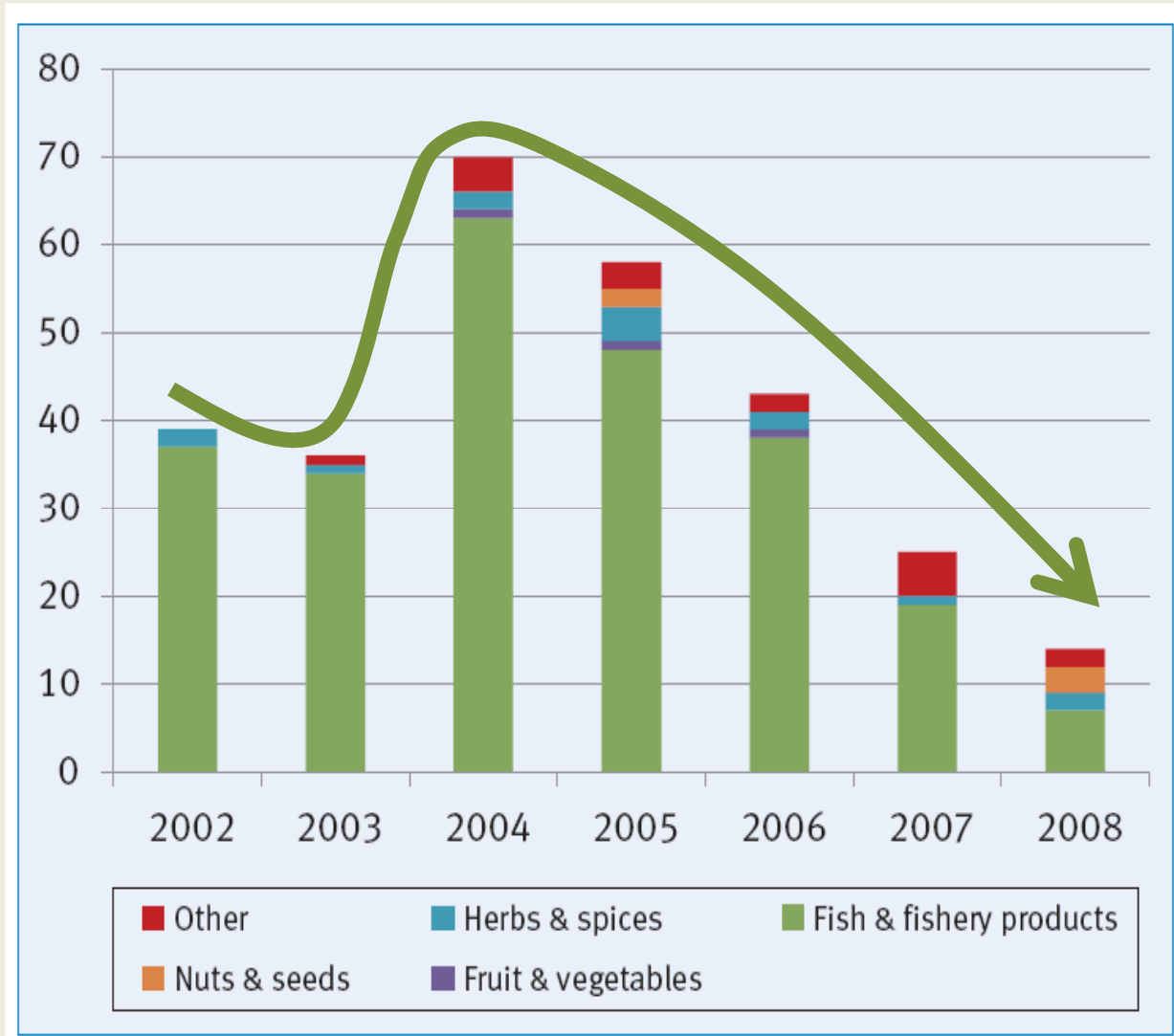
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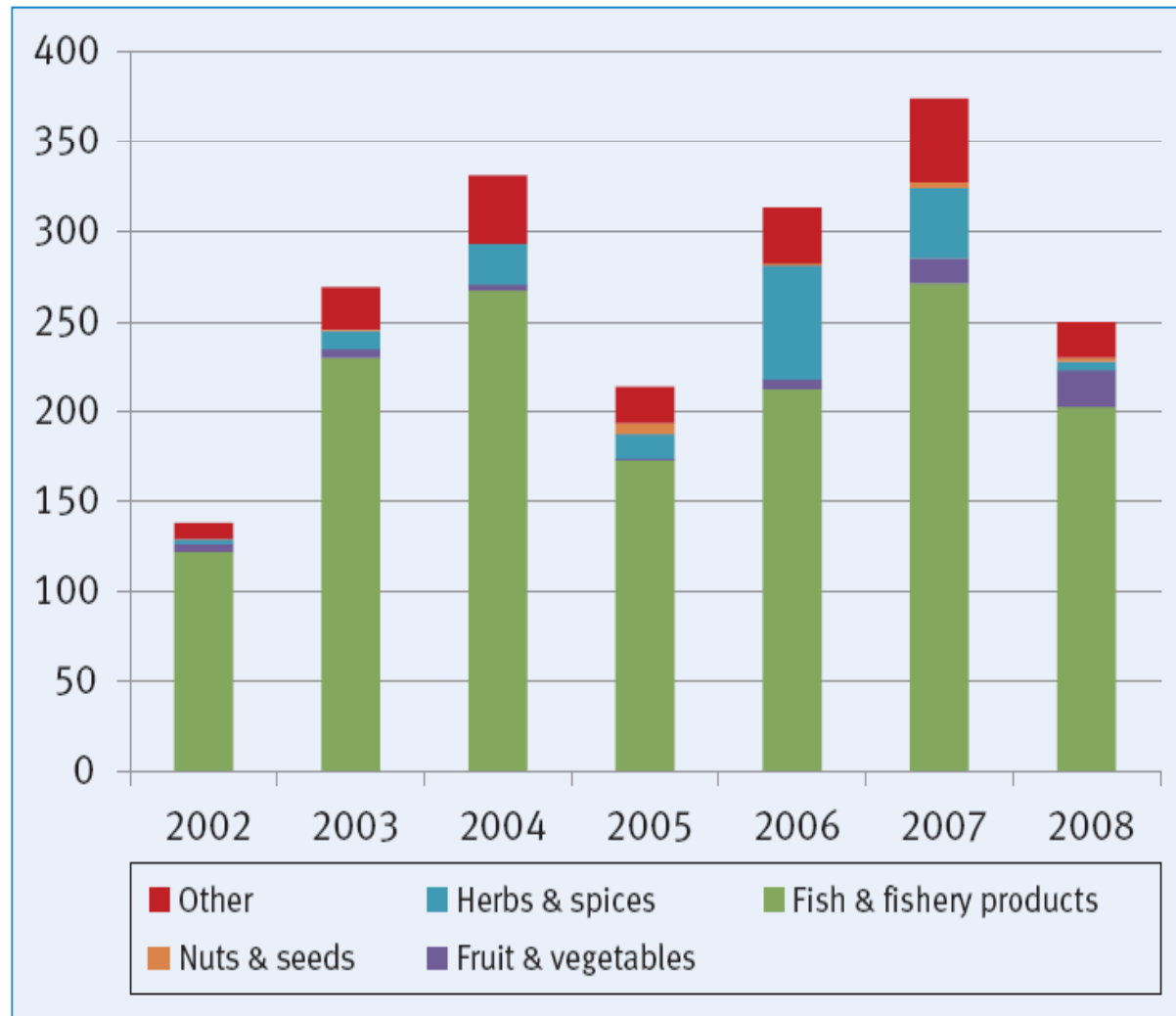
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# Food Safety ? ... International Issues?

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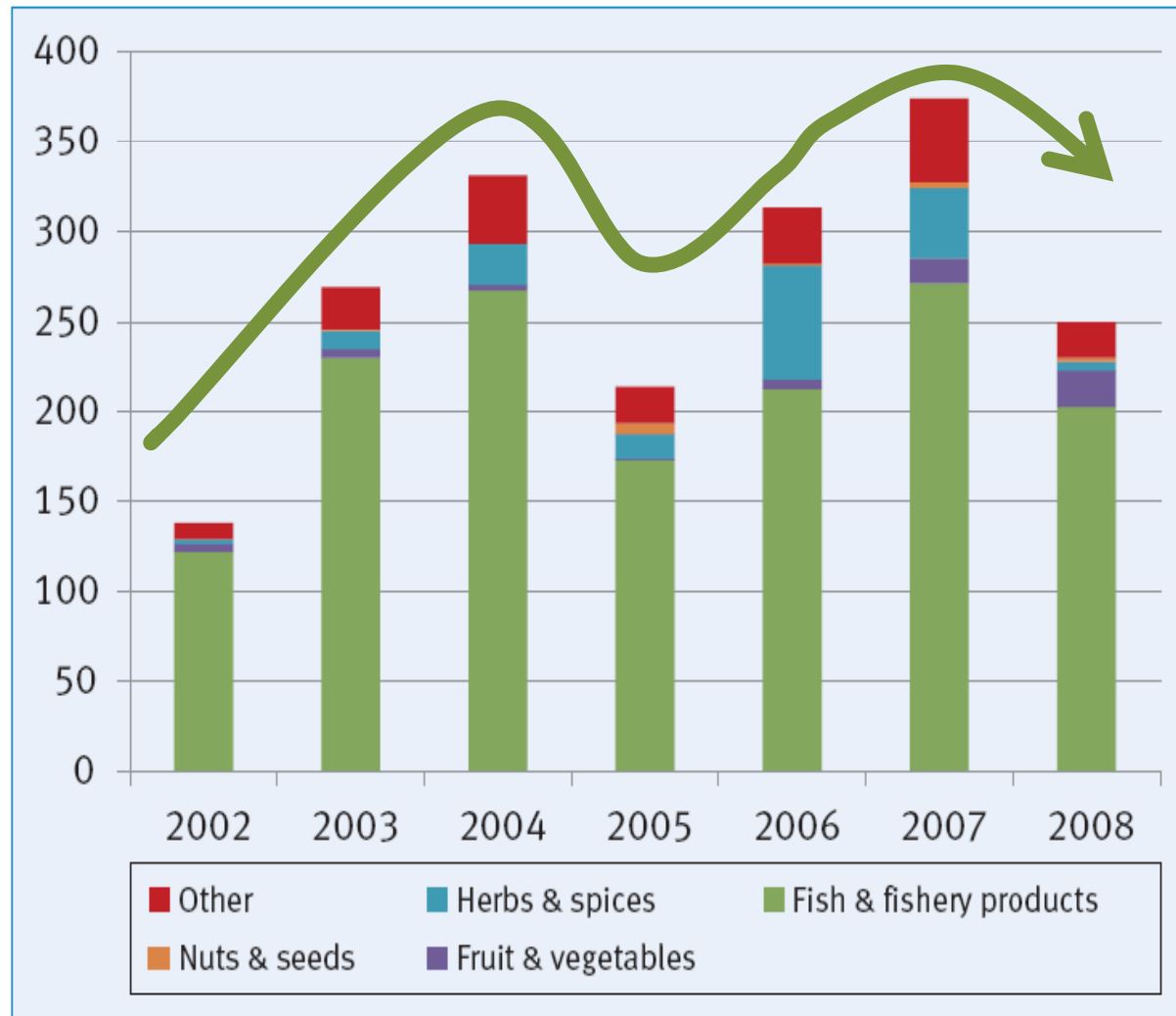
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# Food Safety ? ... International Issues?

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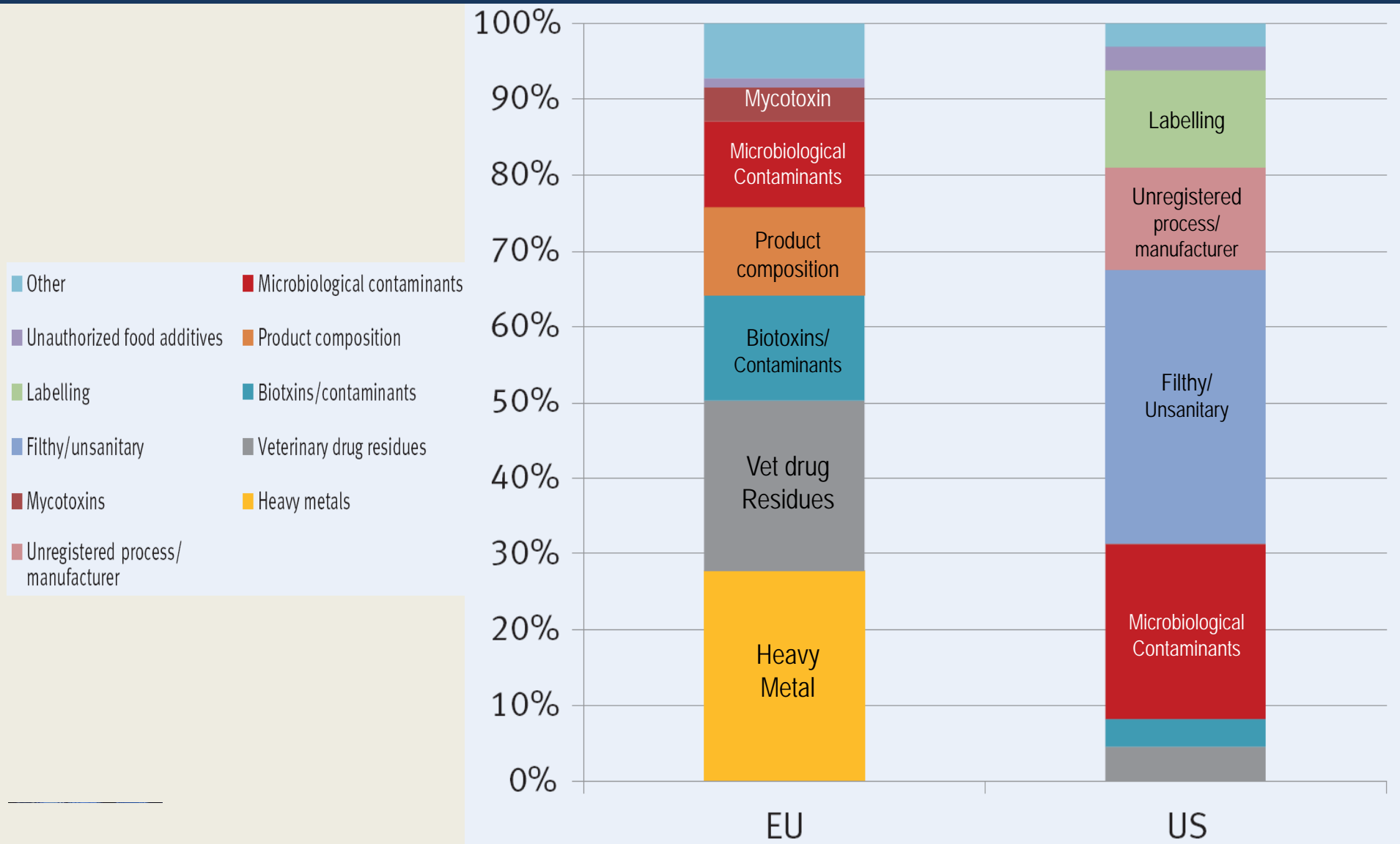
# Reasons for EU rejections of food products, 2002-08 *(The Trade Standards Compliance Report, 2010; UNIDO)*

Country	Mycotoxins	Microbiological contaminants	Veterinary drug residues	Heavy metals	Unauthorized food additives	Product composition	Pesticide residues	Migration	Industrial contaminants	GMO/novel food	Foreign bodies	Biotoxins/contaminants	Radiation	Organoleptic	Bad or insufficient controls	Parasitic infestation	Labelling	Packaging	Other chemical contamination	Allergens	Feed additives	Not determined/other	Total
Iran	2,041	1	0	3	9	0	15	0	1	0	4	0	0	0	0	0	2	0	0	0	0	3	2,079
China	503	89	286	300	139	77	25	229	86	41	45	8	31	26	14	12	20	14	12	3	0	109	2,069
Turkey	983	95	15	30	177	114	153	19	8	0	47	2	2	8	0	2	11	0	2	4	0	20	1,692
India	193	148	179	77	48	139	65	9	5	7	7	3	7	18	1	0	3	0	1	2	0	16	928
United States	340	32	8	18	48	36	5	0	15	206	13	0	43	7	8	4	13	1	7	3	3	26	836
Thailand	20	233	191	47	78	12	111	13	21	0	7	13	18	3	4	0	0	4	2	1	0	25	803
Brazil	178	234	78	29	70	4	12	2	1	1	5	3	3	11	16	6	4	19	3	1	13	22	715
Vietnam	20	147	186	46	26	28	8	1	30	1	3	13	5	5	7	2	0	1	0	1	0	16	546
Argentina	174	78	27	7	15	1	14	1	1	1	2	1	0	12	8	5	0	0	0	0	2	6	355
Indonesia	14	36	73	88	4	37	1	1	0	1	1	44	3	4	1	6	0	0	1	1	0	3	318
Ghana	91	13	0	5	11	101	0	0	8	0	5	0	0	6	6	0	4	4	0	0	0	8	262

# Reasons for US rejections of food products, 2002-08 *(The Trade Standards Compliance Report, 2010; UNIDO)*

Country	Labelling	Unregistered process/ manufacturer	Filthy/unsanitary	Unauthorized food additives	Microbiological contaminants	Pesticide residues	Veterinary drug residues	Poisonous	Biotxins/contaminant	Product not approved/ no import permit	HACCP	Mycotoxins	Product composition	Foreign bodies	Other chemical contamination	Packaging	Allergens	Adulteration	Quality standards	Inadequate information	Radiation	Total
Mexico	3,328	475	3,476	1,475	1,328	2,109	16	135	5	27	114	91	14	17	10	14	7	1	8	0	0	12,650
India	3,829	1,246	1,722	1,346	1,532	454	16	48	2	28	0	37	15	38	10	4	4	1	1	0	0	10,333
United Kingdom	5,899	1,228	65	833	40	1	0	5	7	5	13	0	16	2	0	0	0	9	0	1	0	8,124
China	1,266	1,236	1,625	931	290	402	582	45	5	12	7	7	9	11	35	9	1	0	1	3	0	6,477
Canada	2,516	356	548	524	124	254	16	26	0	16	27	33	6	5	0	0	0	3	0	5	0	4,459
Japan	1,124	1,726	279	272	76	4	0	12	4	5	58	0	1	1	2	1	1	0	0	0	0	3,566
Vietnam	798	376	866	285	770	16	172	106	99	2	29	22	0	1	8	0	1	0	1	0	0	3,552
Dominican Republic	117	32	170	8	2	2456	0	4	5	15	0	0	1	0	0	2	0	0	0	0	0	2,812
Italy	1037	1268	215	68	63	10	0	11	0	4	6	1	5	1	0	0	0	0	1	0	0	2,690
South Korea	875	1068	181	299	129	13	0	8	0	7	49	0	2	1	1	0	2	0	0	0	0	2,635
Indonesia	335	347	949	82	600	0	120	56	95	6	2	3	13	0	0	1	0	0	0	0	0	2,609

# Comparision of Reasons for US & EU rejections of food products, 2002-08 *(The Trade Standards Compliance Report, 2010; UNIDO)*





# Food Safety ? ... International Issues? Challenges/Opportunity?

Case of Indonesian shrimp exports\*)

- September 2001, the EU has required virus-free and antibiotic-free shrimp imports
  - all imported shrimp to EU to be free of chloramphenicol.
- The EU has refused entry of Indonesian shrimp and other seafood products based on food safety reasons.
- Contribute to the decrease of export value from Indonesia to EU by 2.6% in 2002 and 15.8% in 2003.

\*) **Alimi, T.** Trade and Environment Dimensions in the Food and Food Processing Industries in Asia and the Pacific; *A Country Case Study of Indonesia*



# Food Safety ? ... International Issues? Challenges/Opportunity?

Case of EU vs US refusals of Indonesian exports\*\*)

- Total EU rejections of food and feed products from Indonesia declined dramatically from 2004 to 2008, while total US rejections did not show any clear downwards trend.
  - **EU** → primary reasons of fish and fishery products rejections were heavy metals and antibiotic residues, problems that **largely has been addressed by Indonesia.**
  - **This contrasts with** on-going rejections in the **US** due to poor sanitation/hygiene and resultant microbiological contamination; **which have not been addressed well by Indonesia.**

\*\* ) *The Trade Standards Compliance Report, 2010 (UNIDO)*





# Food Safety ?

... So.....

**Food Safety Challenges and opportunities** of developing countries are associated with how to improve

- (i) public health
- (ii) food security, and
- (iii) trade competitiveness



# Food Safety Challenges & Opportunity ? ... (1)

**Domestically;** Indonesia need to establish national system of food safety; including

1. Strengthen **National Standards Body (NSB)**, responsible for approval and dissemination of standards.
2. Establish **National Metrology Institute (NMI)** : responsible for measurement standards and national calibration system
3. Establish network and increase capacity of **Laboratories for Product Testing**



# Food Safety Challenges & Opportunity ? ... (2)

**Domestically;** Indonesia need to establish national system of food safety; including

4. Improve **Certification Services** (product and system certification).
5. Develop **National Empowerment Services** : Industrial – especially SMEs assistances/capacity building
6. Build **Inspection System**; assurance of compliance
7. Develop massive **food safety education program**;  
→ *from farm to fork approach*



# Food Safety Challenges & Opportunity ? ... (3)

**Internationally;** Indonesia and international community (market) need to establish stronger partnership :

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- Food safety is a shared responsibility
- Approach to solve food safety problem is “form **farm** to **fork**”,
- → With the emergence of “international trade”, then, to strengthen global food safety system, international community have to remember that **farm** (may be in country A) and **fork** (may be in country B, C)



# Food Safety Challenges & Opportunity ? ... (4)

**Internationally;** Indonesia and international community (market) need to establish stronger partnership :

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*Meaning that ....*

Understanding and collaboration between **producing** country and **consuming** country **is essential** in strengthening global supply chain of safe foods.



# THANK YOU

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