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# Fish for Life: Food, Health and Fun



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- I. Introduction
- II. Fish for Life
- III. Global Trend of Fishery
- IV. Closing Remarks

# Suadi



- **Education**

- SMA Negeri Bima, Nusa Tenggara Barat
- Undergrad : Department of Fisheries UGM
- M.Sc : Ibaraki University, Jepang
- Ph.D : Tokyo University of Agriculture & Technology, Jepang

- **Current Position**

- Secretary at Department of Fisheries UGM
- Head of Lab. Fishery Socio Economics UGM
- Researcher at Center of Economic Studies and Public Policy (PSEKP) UGM

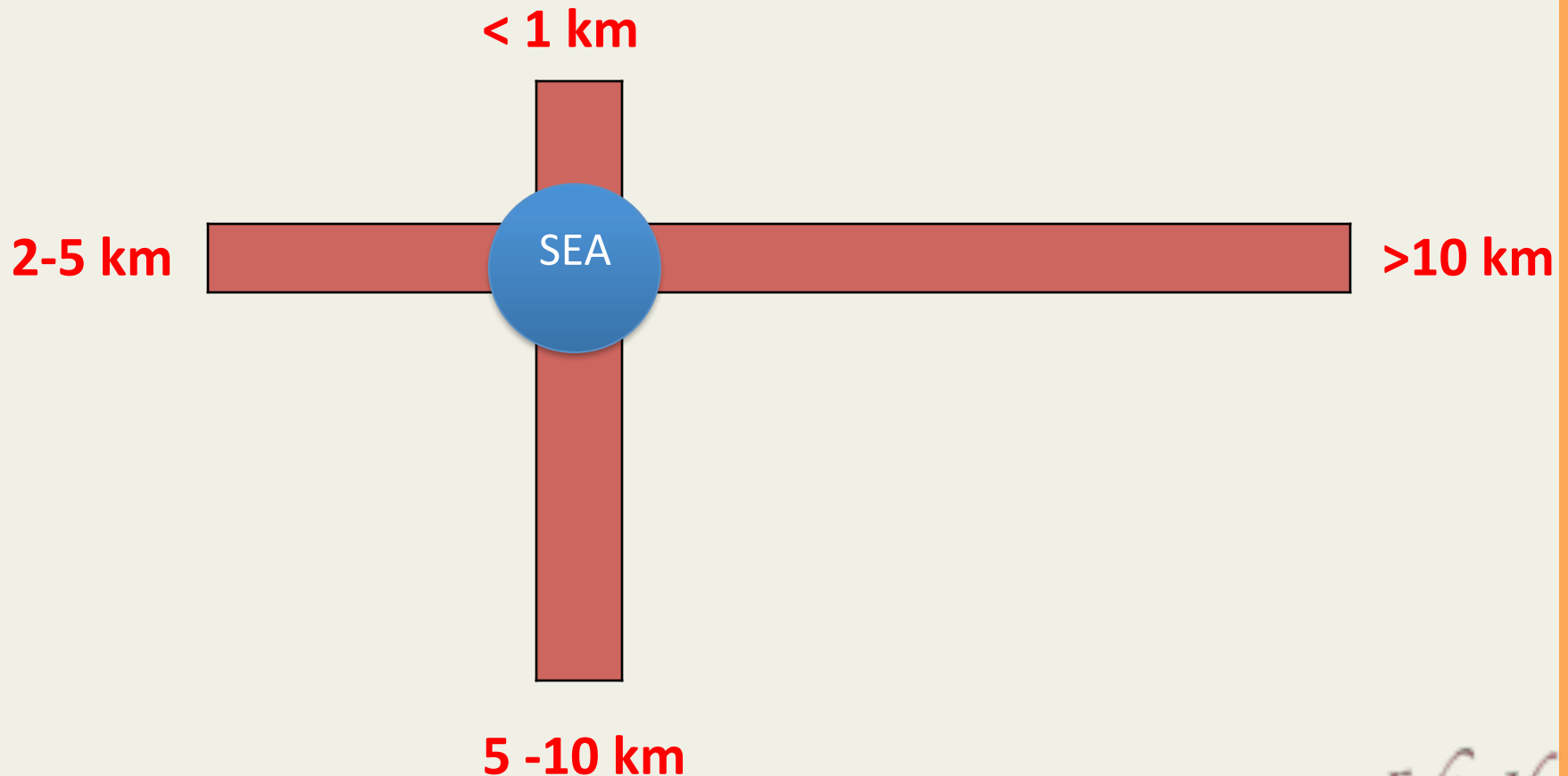
- **Bidang Penelitian**

- Fisheries management, Rural development

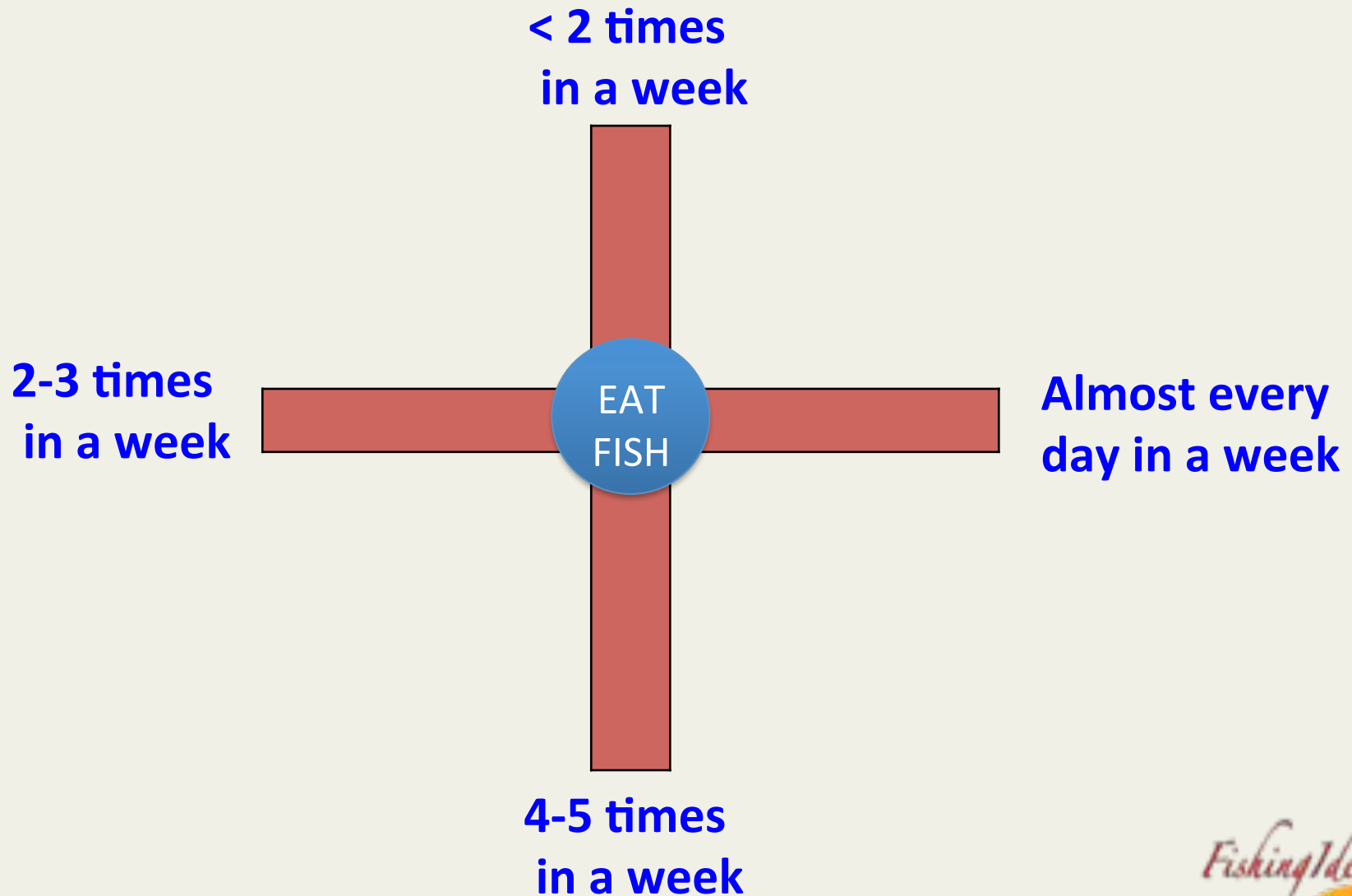
- **Contact**

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- <http://suadi.net>; <https://www.facebook.com/suadi>

# Where are you coming from?



# How often do you eat fish?



# I. Introduction

□ High productivity ecosystem (coral reef,



3 International sealanes

Bima

(72%)

Fishing Ideas



# Why Ocean?

## Indonesia & the Sea

- Indonesia is the largest archipelagic state → abundance of natural resources and environmental services, but not optimally used
- High demand of resources and marine environmental services
- The geopolitical and economy of Indonesia is strategic → trillions dollars of commodity trade passes Indonesia searoutes (ALKI)
- Business feasibility and most of city and industrial activities connected to the sea
- Reduce regional disparity and increase connectivity
- Depend on local resources content → strong backward and forward linkage
- Reduce illegal fishing, illegal mining, illegal trading
- Outer island as prosperity belt and security belt → national security
- Reinventing Indonesia power and prosperity from the ocean

# Marine economy opportunities:

1. Capture fisheries
2. Aquaculture
3. Processing and post harvest industry
4. Biotechnology industry
5. Minerals and energy
6. Marine tourism
7. Marine transportation and services
8. Marine industry and services
9. Small island management
10. Coastal forestry
11. Non-conventional resources

On the sea

In the sea

Bottom of the sea

- ☐ Values of business opportunity: US\$ 1,2 triliun/year or 7 times of APBN 2014 (US\$ 170 billion).
- ☐ May generate jobs for 40 million people (Dahuri 2014)



## II. Fish for Life



What fish is?



## II. Fish for Life

### What Fish is?



- Fish is all kind of organisms where all or a part of its life cycle is in water environment
- Fishery is an activity related with the management and utilization of fish resources and its environment from pre-production, production, processing up to iss marketing performed in a fishery business system

(Indonesian Law No. 45/2009 on Fishery)

## II. Fish for Life

What Fish is?





## II. Fish for Life

- **Fish** = Food & health  
→ Food sovereignty



## II. Fish for Life

- Fish = livelihood



## II. Fish for Life

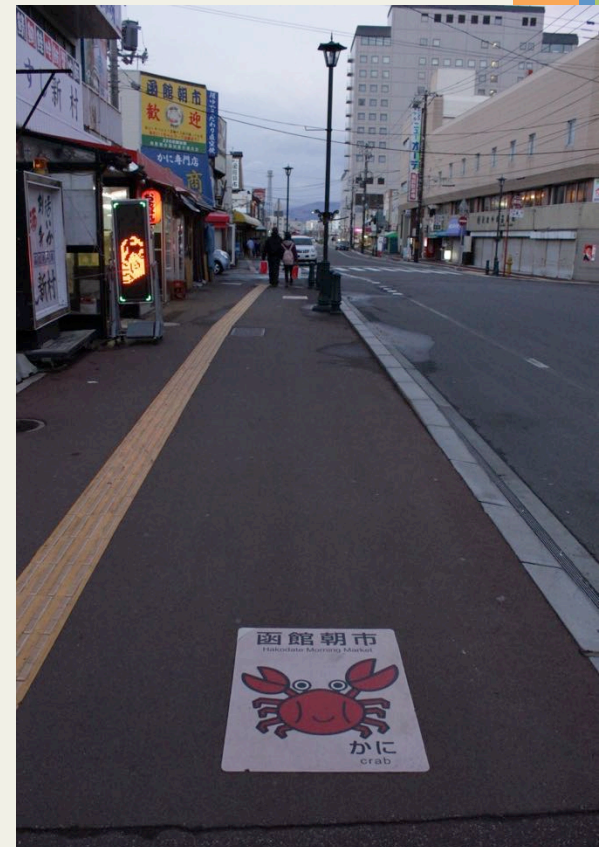
- Fish = science and technology





## II. Fish for Life

Fish = identity





## II. Fish for Life

Fish = trigger for  
joint work



## II. Fish for Life

- Fish = creativity





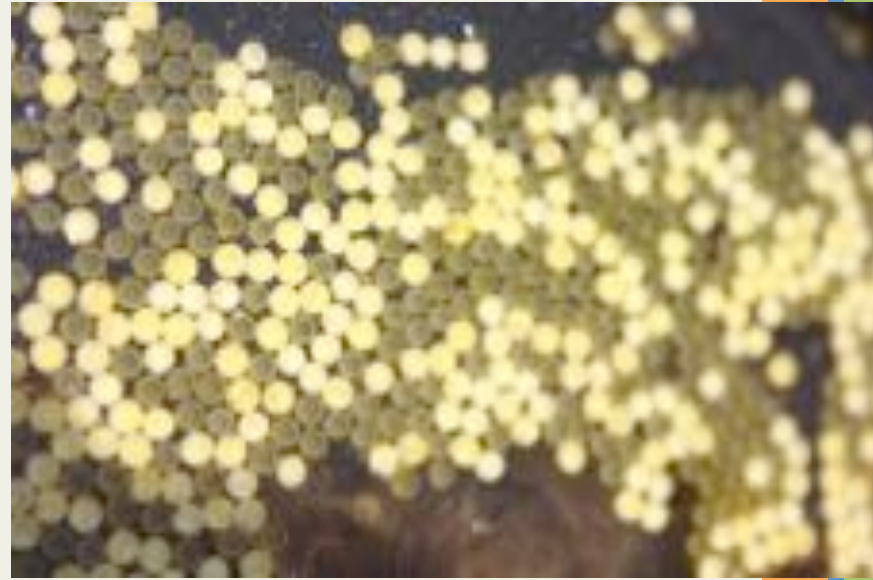
## II. Fish for Life

- Fish = Art, Beauty, and leisure



## II. Fish for Life

- Fish =  
Conservation





## II. Fish for Life

- Fish = conflict & sovereignty



## II. Fish for Life

- Fish = trade & globalization





# Imagine!

## Think about coffee (Giddens)

- First of all, that coffee is not just a refreshment
- Second, coffee is a drug that contains caffeine, which has a stimulating effect on the brain.
- Third, an individual who drinks a cup of coffee is caught up in a complicated set of social and economic relationships stretching right across the world.
- Fourth, the act of sipping a coffee presumes a long process of social and economic development
- Fifth, coffee is a product that lies at the heart of contemporary debates about globalization, international fair trade, human rights and environmental destruction.
- Six, coffee is a product that lies at the heart of contemporary debates about globalization, international fair trade, human rights and environmental destruction.





## II. Fish for Life

- Fish = poverty
- Fish = gender issues
- Fish = old and youth
- Fish = Faith
- Fish = politics
- Fish = philosophy



# III. Global Trend & State of Fishery

Table 1  
World fisheries and aquaculture production and utilization

	2007	2008	2009	2010	2011	2012
(Million tonnes)						
<b>PRODUCTION</b>						
<b>Capture</b>						
Inland	10.1	10.3	10.5	11.3	11.1	11.6
Marine	80.7	79.9	79.6	77.8	82.6	79.7
Total capture	90.8	90.1	90.1	89.1	93.7	91.3
<b>Aquaculture</b>						
Inland	29.9	32.4	34.3	36.8	38.7	41.9
Marine	20.0	20.5	21.4	22.3	23.3	24.7
Total aquaculture	49.9	52.9	55.7	59.0	62.0	66.6
<b>TOTAL WORLD FISHERIES</b>	<b>140.7</b>	<b>143.1</b>	<b>145.8</b>	<b>148.1</b>	<b>155.7</b>	<b>158.0</b>
<b>UTILIZATION<sup>1</sup></b>						
Human consumption	117.3	120.9	123.7	128.2	131.2	136.2
Non-food uses	23.4	22.2	22.1	19.9	24.5	21.7
Population (billions)	6.7	6.8	6.8	6.9	7.0	7.1
Per capita food fish supply (kg)	17.6	17.9	18.1	18.5	18.7	19.2

Note: Excluding aquatic plants. Totals may not match due to rounding.

<sup>1</sup> Data in this section for 2012 are provisional estimates.

Table 2  
Marine capture fisheries: major producer countries

## Marine and inland capture fisheries

2012 Ranking	Country	Continent	2003	2011	2012	Variation	
						2003-2012	2011-2012
						(Percentage)	
1	China	Asia	12 212 188	13 536 409	13 869 604	13.6	2.4
2	Indonesia	Asia	4 275 115	5 332 862	5 420 247	27.0	1.7
3	United States of America	Americas	4 912 627	5 131 087	5 107 559	4.0	-0.5
4	Peru	Americas	6 053 120	8 211 716	4 807 923	-20.6	-41.5
5	Russian Federation	Asia/ Europe	3 090 798	4 005 737	4 068 850	31.6	1.6
6	Japan	Asia	4 626 904	3 741 222	3 611 384	-21.9	-3.5
7	India	Asia	2 954 796	3 250 099	3 402 405	15.1	4.7
8	Chile	Americas	3 612 048	3 063 467	2 572 881	-28.8	-16.0
9	Viet Nam	Asia	1 647 133	2 308 200	2 418 700	46.8	4.8
10	Myanmar	Asia	1 053 720	2 169 820	2 332 790	121.4	7.5
11	Norway	Europe	2 548 353	2 281 856	2 149 802	-15.6	-5.8
12	Philippines	Asia	2 033 325	2 171 327	2 127 046	4.6	-2.0
13	Republic of Korea	Asia	1 649 061	1 737 870	1 660 165	0.7	-4.5
14	Thailand	Asia	2 651 223	1 610 418	1 612 073	-39.2	0.1
15	Malaysia	Asia	1 283 256	1 373 105	1 472 239	14.7	7.2
16	Mexico	Americas	1 257 699	1 452 970	1 467 790	16.7	1.0
17	Iceland	Europe	1 986 314	1 138 274	1 449 452	-27.0	27.3
18	Morocco	Africa	916 988	949 881	1 158 474	26.3	22.0
Total 18 major countries			58 764 668	63 466 320	60 709 384	3.3	-4.3
World total			79 674 875	82 609 926	79 705 910	0.0	-3.5
Share 18 major countries (percentage)			73.8	76.8	76.2		



# Farmed food fish production by top 15 producers and main groups of farmed species in 2012

Top 15 producers



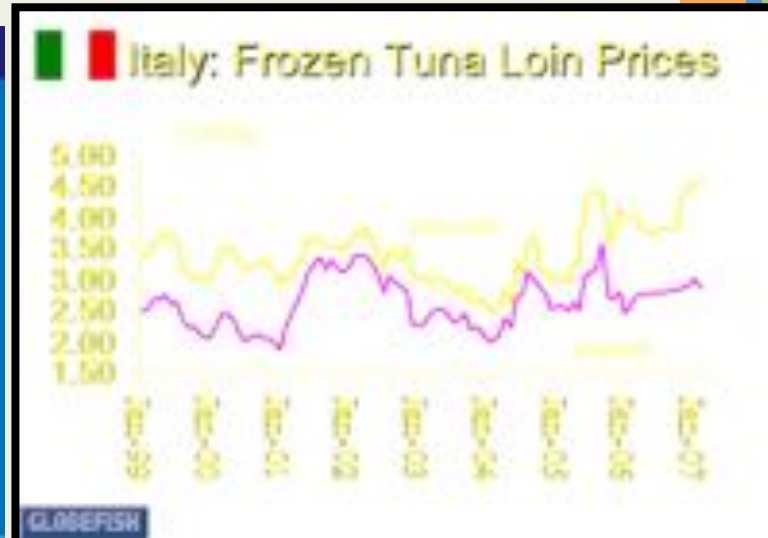
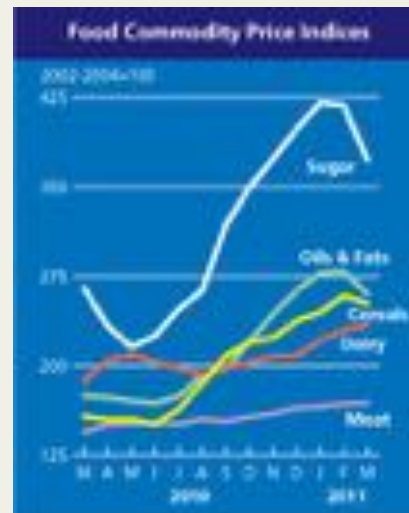
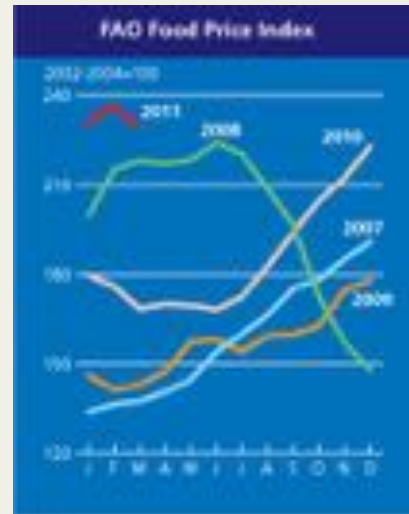
China  
India  
Viet Nam  
Indonesia  
Thailand  
Bangladesh  
Norway  
Chile  
Philippines  
Japan  
Egypt  
Myanmar  
United States  
Republic of Korea  
Taiwan Province of China

Note: Data are in thousands of tonnes

Producer	Finfish		Crustaceans	Molluscs	Other species	National total	Share in world total
	Inland aquaculture	Mariculture					
	(Tonnes)						(Percentage)
China	23 341 134	1 028 399	3 592 588	12 343 169	803 016	41 108 306	61.7
India	3 812 420	84 164	299 926	12 905	...	4 209 415	6.3
Viet Nam	2 091 200	51 000	513 100	400 000	30 200	3 085 500	4.6
Indonesia	2 097 407	582 077	387 698	...	477	3 067 660	4.6
Bangladesh	1 525 672	63 220	137 174	...	...	1 726 066	2.6
Norway	85	1 319 033	...	2 001	...	1 321 119	2.0
Thailand	380 986	19 994	623 660	205 192	4 045	1 233 877	1.9
Chile	59 527	758 587	...	253 307	...	1 071 421	1.6
Egypt	1 016 629	...	1 109	...	...	1 017 738	1.5
Myanmar	822 589	1 868	58 981	...	1 731	885 169	1.3
Philippines	310 042	361 722	72 822	46 308	...	790 894	1.2
Brazil	611 343	...	74 415	20 699	1 005	707 461	1.1
Japan	33 957	250 472	1 596	345 914	1 108	633 047	1.0
Republic of Korea	14 099	76 307	2 838	373 488	17 672	484 404	0.7
United States of America	185 598	21 169	44 928	168 329	...	420 024	0.6
<b>Top 15 subtotal</b>	<b>36 302 688</b>	<b>4 618 012</b>	<b>5 810 835</b>	<b>14 171 312</b>	<b>859 254</b>	<b>61 762 101</b>	<b>92.7</b>
Rest of world	2 296 562	933 893	635 983	999 426	5 288	4 871 152	7.3
<b>World</b>	<b>38 599 250</b>	<b>5 551 905</b>	<b>6 446 818</b>	<b>15 170 738</b>	<b>864 542</b>	<b>66 633 253</b>	<b>100</b>

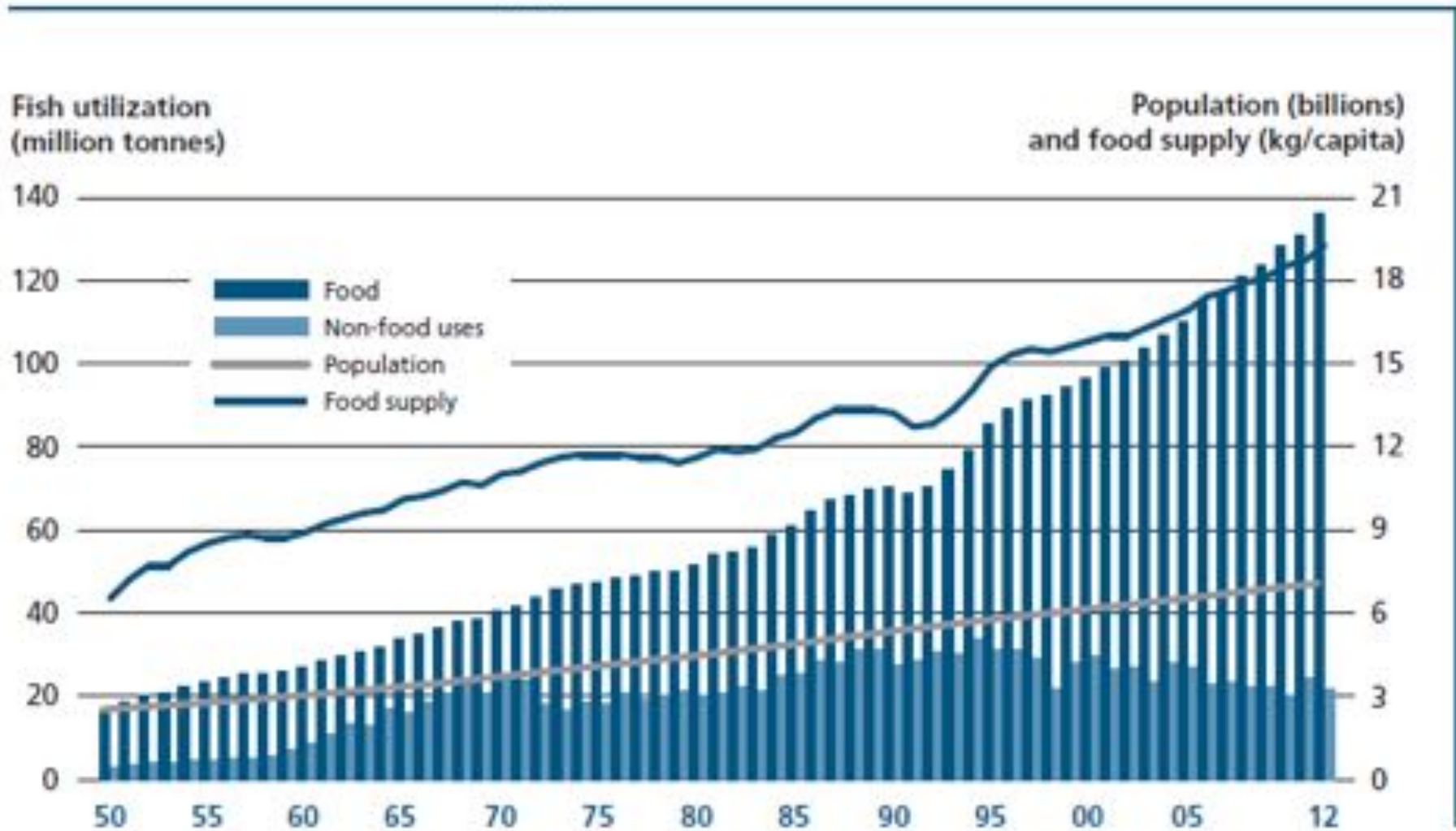
Note: The symbol "..." means the production data are not available or the production volume is regarded as negligibly low.

# Skyrocketing of Fish Price

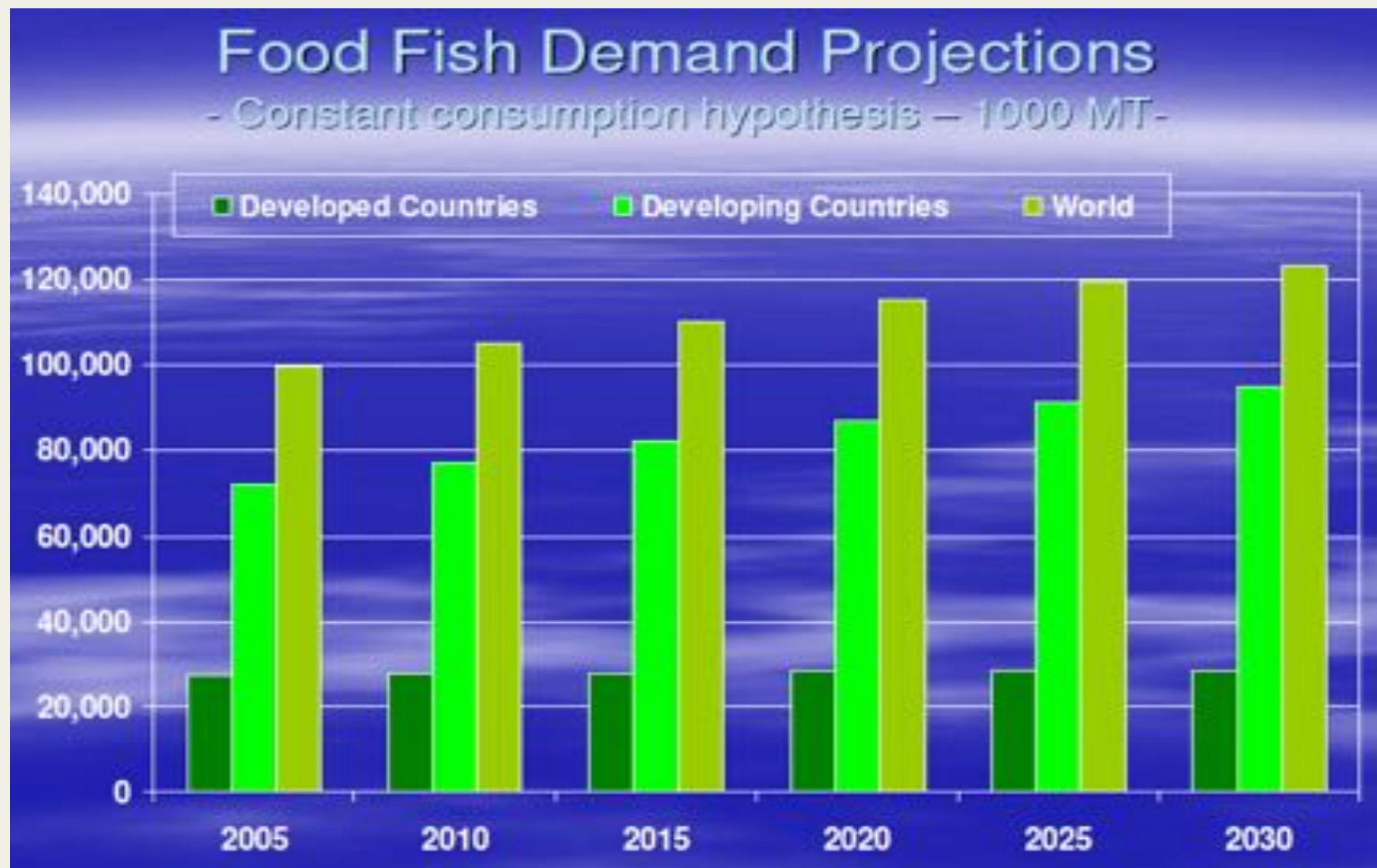


# Increasing of fish demand

World fish utilization and supply



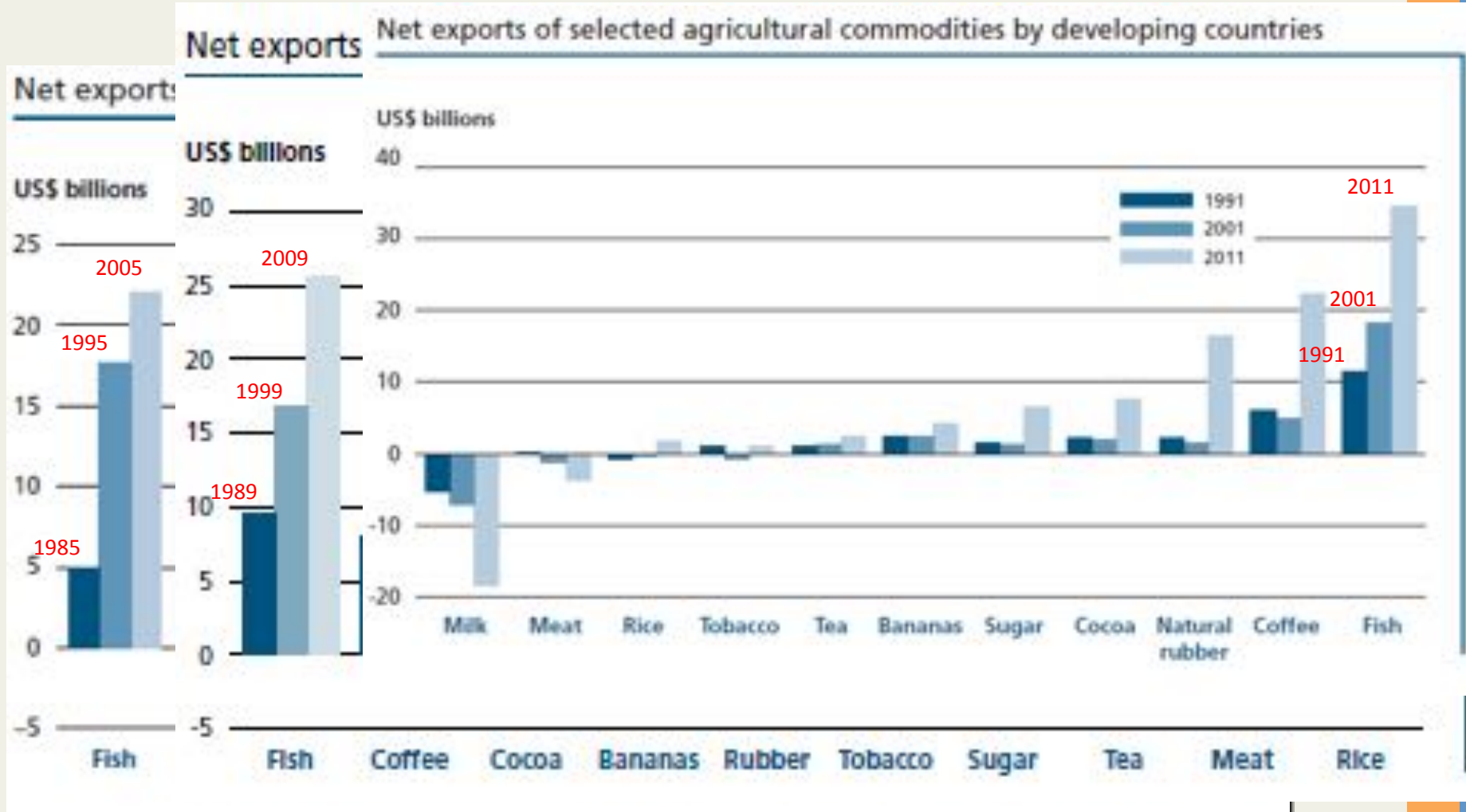




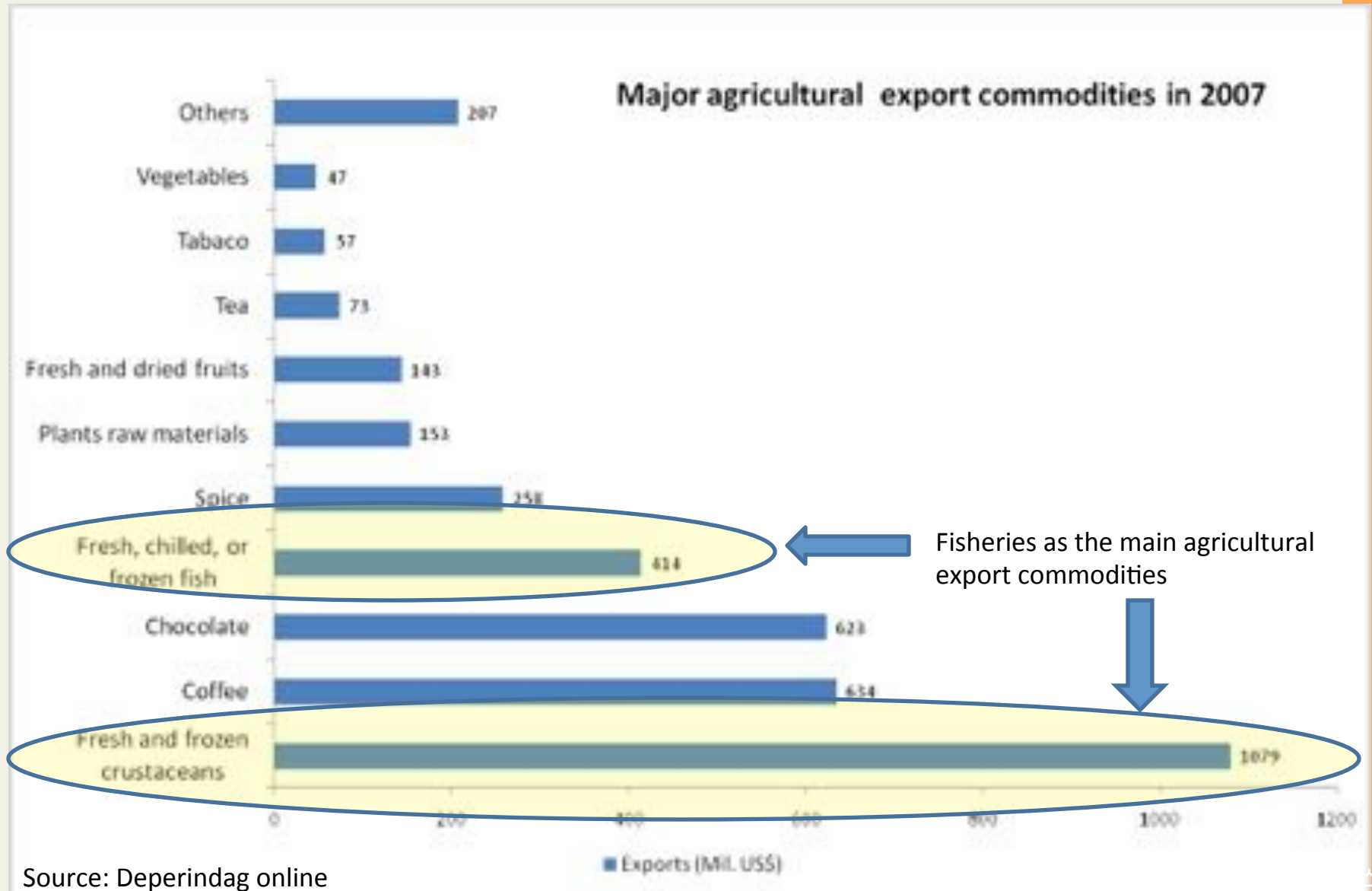
Sumber: Josupeit and Franz 2003



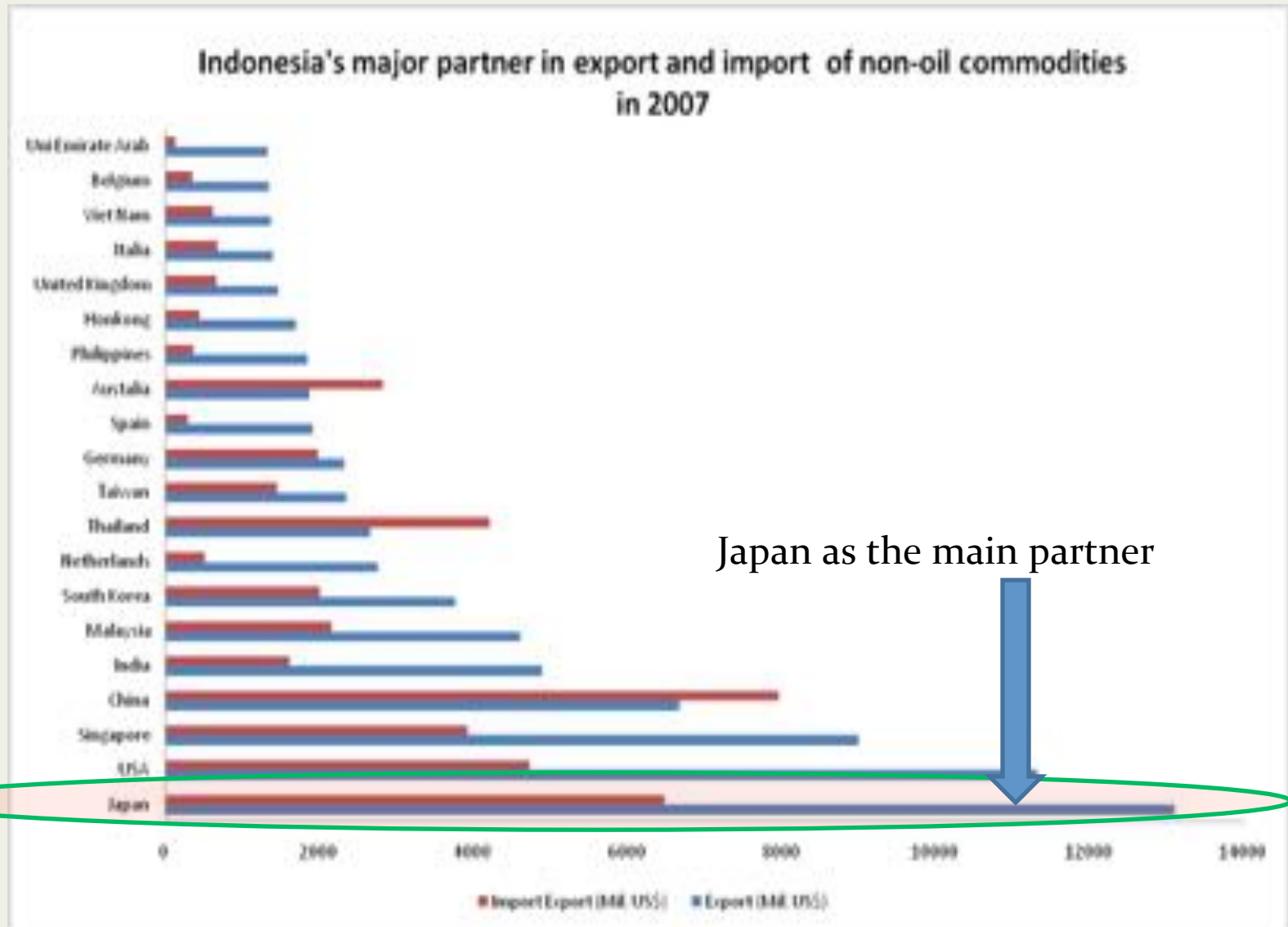
# Fish = trade oriented commodity



# Ekspor komoditas pangan Indonesia



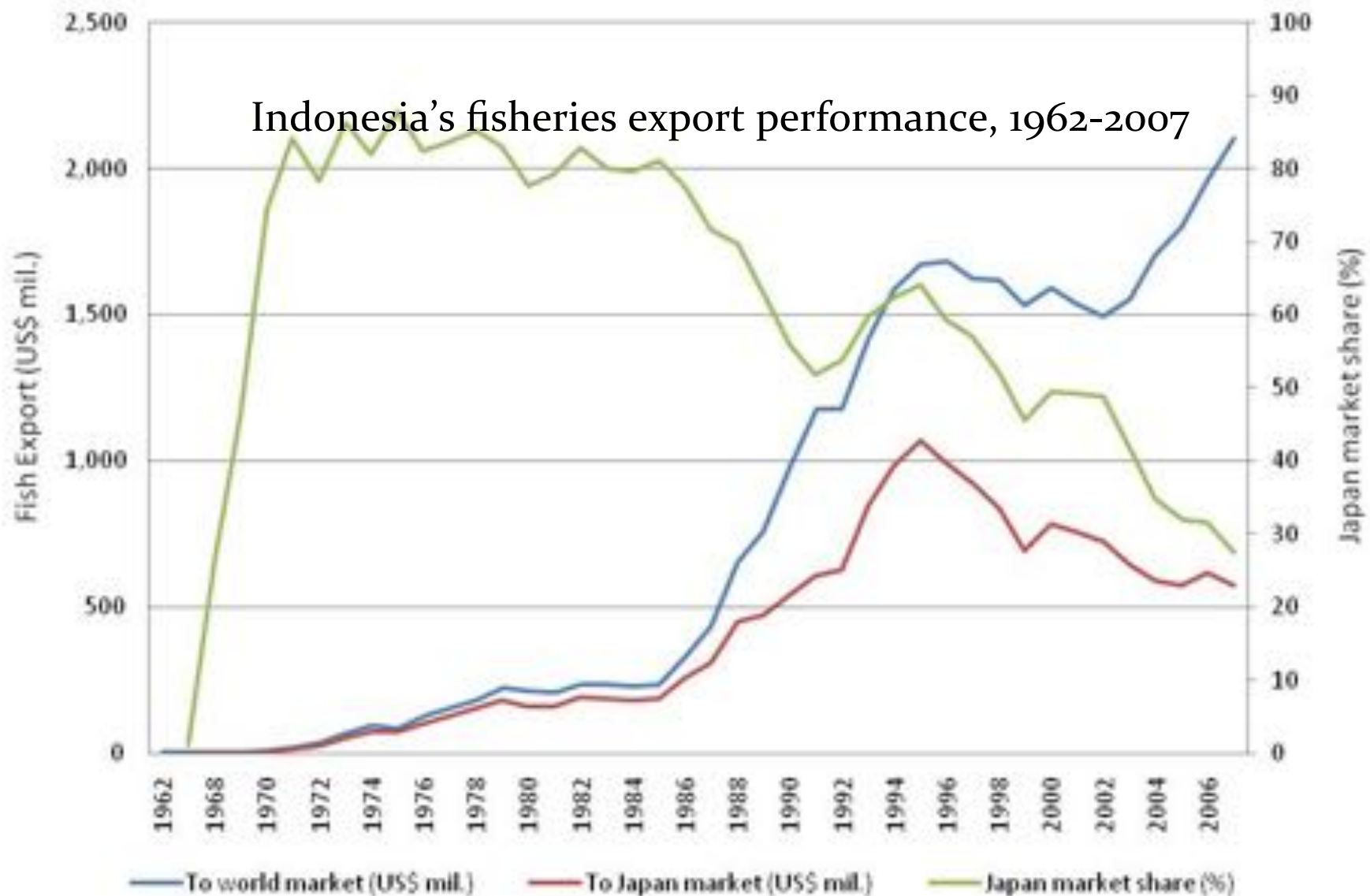
# Negara tujuan ekspor produk perikanan Indonesia



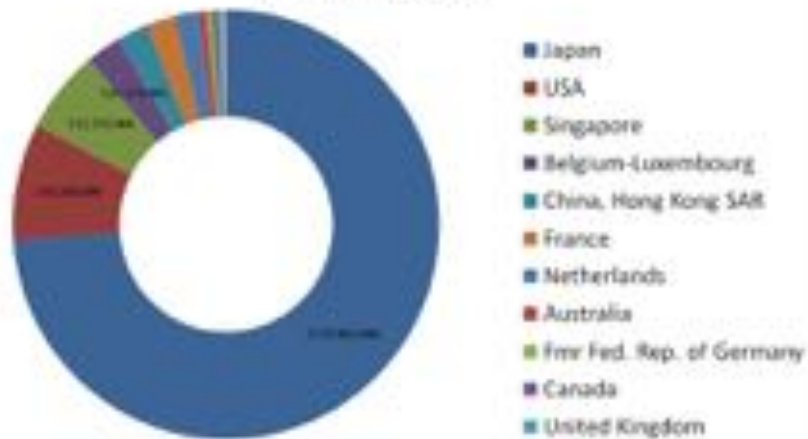
Source: Deperindag online

Suadi – Japan-Indonesia Fisheries - IASA 2008

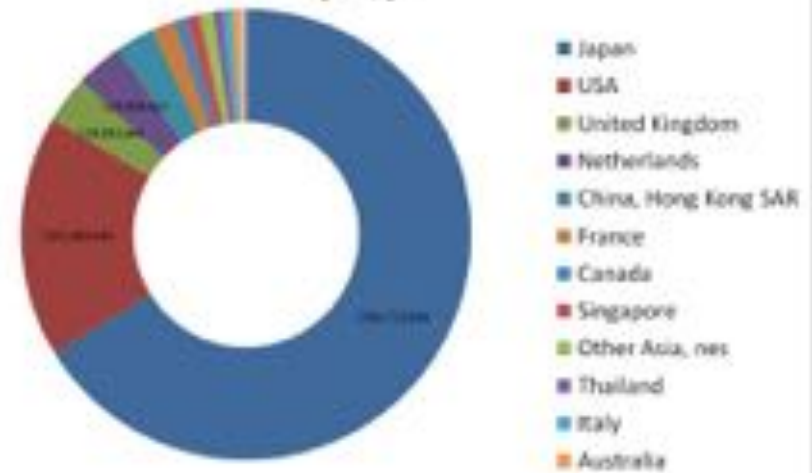
## Indonesia's fisheries export performance, 1962-2007



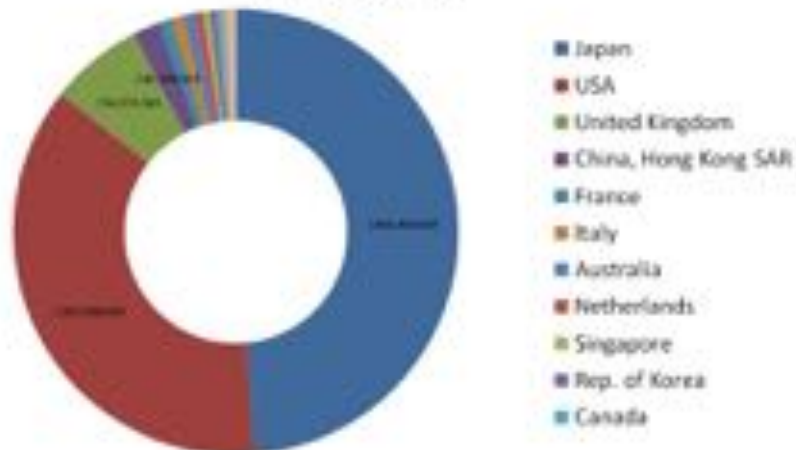
**Export Value of Frozen Shrimp and Prawn  
in 1989 (US\$)**



**Export Value of Frozen Shrimp and Prawn in 2000  
(US\$)**



**Export Value of Frozen Shrimp and Prawn  
in 2006 (US\$)**

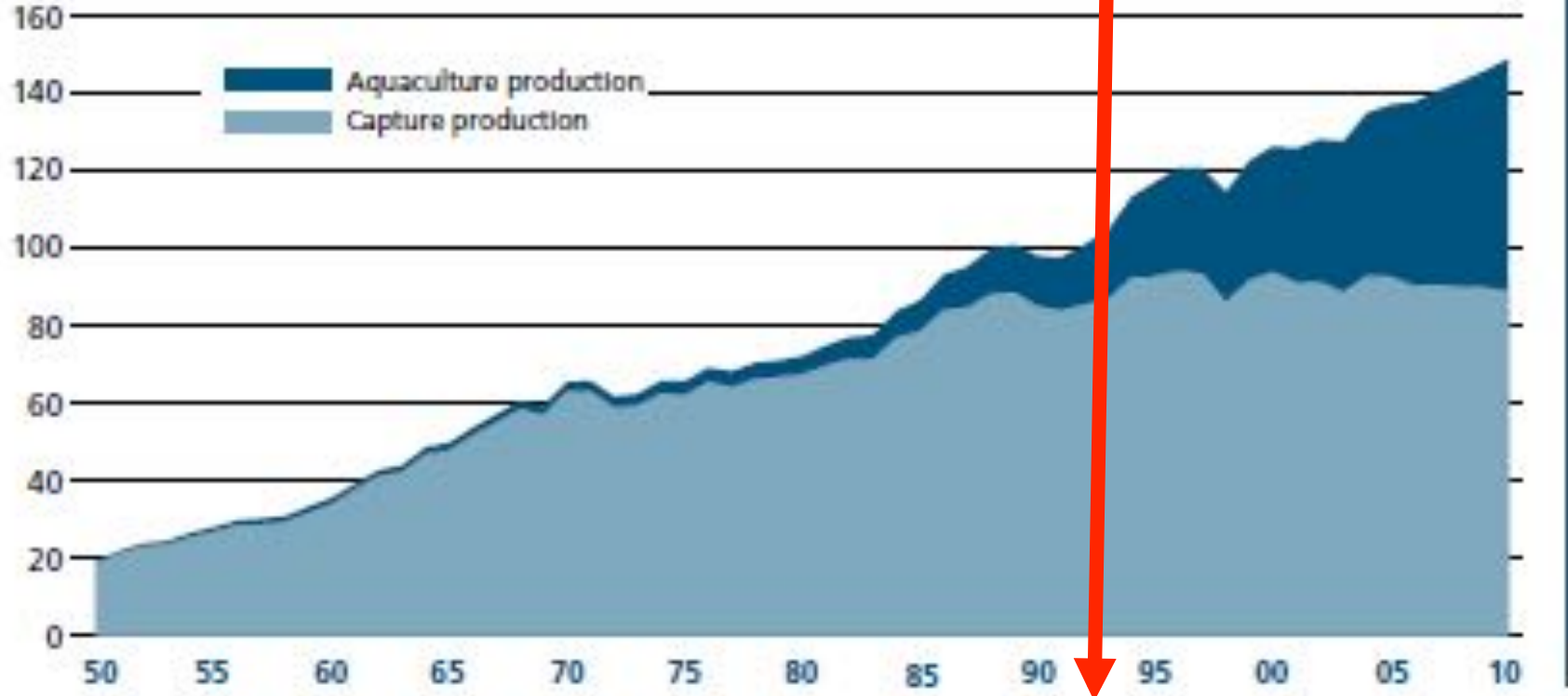


Indonesian Shrimps Export Strategies

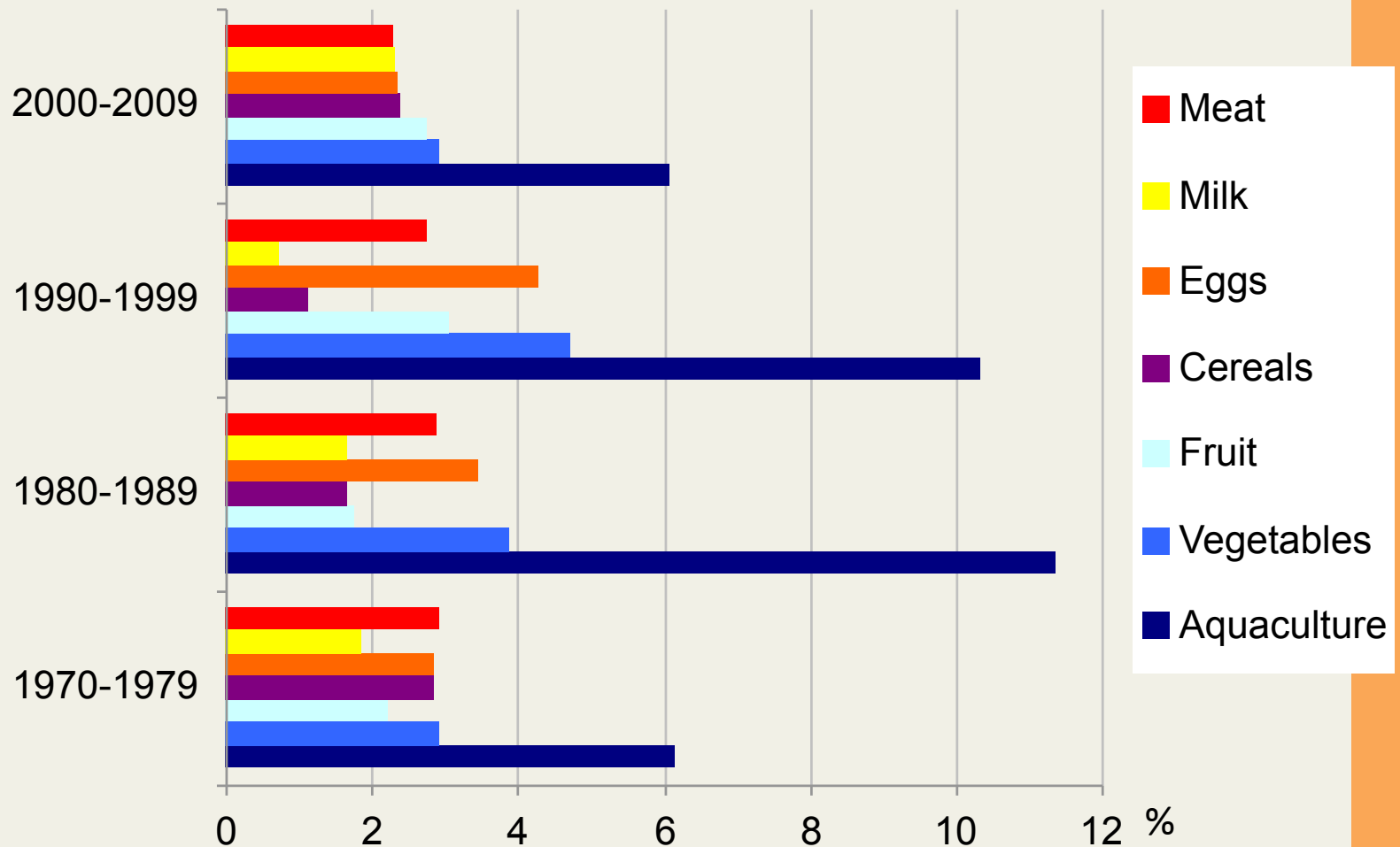
# Challenging Issues in Fisheries

World capture fisheries and aquaculture production

Million tonnes



# Annual growth rate Aquaculture vs agriculture





# Challenges of Blue Revolution

Shrimp culture in  
Bengkalis, Riau



- ◆ Abrasion is an example impact of the mangrove degradation → increase in cost for rehabilitation
- ◆ Declining of fishery resources threaten rural livelihood

- ◆ Mangrove has been converted for many purposes
- ◆ Expansion of shrimp culture industry is a factor of the mangrove degradation
- ◆ It is predicted that Indonesia has lost nearly a half of its mangrove since 1980 (4.2 million ha in 1980).

Abrasion in Bengkalis,  
Riau



## IV. Closing Remark

Discussion?



# FISHERIES AS SYSTEM

