Bringing the Oceans & Fish into the Global Food Security Conversation

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Food Security

When all people at all times have both 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.

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FOOD SECURITY - IMAGE SEARCH ON GOOGLE.COM

Fish are largely left out of global Food Security discussions

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Fish as Wealth

Aggregate economic output from fisheries & aquaculture ~US$ 500 billion per year. Contributes to poverty & food security through:

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- **Income to those in the sector & spillover effects**

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- **Nutritional benefits from the consumption of fish**
- **Income to those in the sector & spillover effects**
- **Generation of revenue from exports, taxation, license fees and access to resources by foreign fleets or foreign investment in aquaculture**

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Harvest, sale and processing of fish contribute indirectly to food security by increasing purchasing power at individual or household level and also regionally and nationally.

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Global fish trade = ~US$ 100 Billion / year

Many poor countries prefer to export their fish (high & low value species) for quick revenue, depriving their people of important sources of nutritious food

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Global per capita supply of fish ~17 Kg

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Nearly half comes from aquaculture

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Global per capita supply of fish ~17 Kg

Nearly half comes from aquaculture

Demand expected to increase substantially

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Availability of fish is unevenly distributed

Supply constraints faced by undernourished populations in developing countries, with high dependence on fish

(Sub-Saharan Africa, least developed countries of S & SE Asia, and small island states in the Pacific Ocean)

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Fish & Health:
Different perspectives

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Fish & Health:
Different perspectives

Developed Countries:

focus on fish safety & health benefits of PUFAs from fish + fish oil

(Lower blood pressure & risk of heart disease)

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Fish & Health:
Different perspectives

Developed Countries:
focus on fish safety & health benefits of PUFAs from fish + fish oil

(Lower blood pressure & risk of heart disease)

Developing Countries:
fish critical to tacking undernutrition, maternal + child health

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Fish & Food Security:

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Fish & Food Security:

Usually linked through contributions to **PROTEIN SUPPLY**

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Fish & Food Security:

Usually linked through contributions to **PROTEIN SUPPLY**

Much more important as source of **MICRONUTRIENTS & LIPIDS**

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More than 2 Billion people in the world are undernourished through deficiencies in essential vitamins & minerals (Vit.A, Fe, Zn)

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Essential at key stages of human life:
pregnancy, lactation, growth

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Essential at key stages of human life: pregnancy, lactation, growth

Deficiencies can cause severe and irreversible impacts on health & physical + mental development

= HIDDEN HUNGER

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Fish can contribute to reducing micronutrient deficiencies and reducing the health burden

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BIG CONCERN...

Farmed Fish, which are currently increasing in availability globally and are most affordable to the poor, **ARE OF LOWER NUTRITIONAL VALUE**

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SMALL FISH,
important in the diets of the poor,
have high nutrient content

PUFAs (Omega 3 & 6), Vitamin A, Iron, Zinc & Calcium

SMALL OILY FISH

STRATEGIC RESOURCES

to reduce global malnourishment

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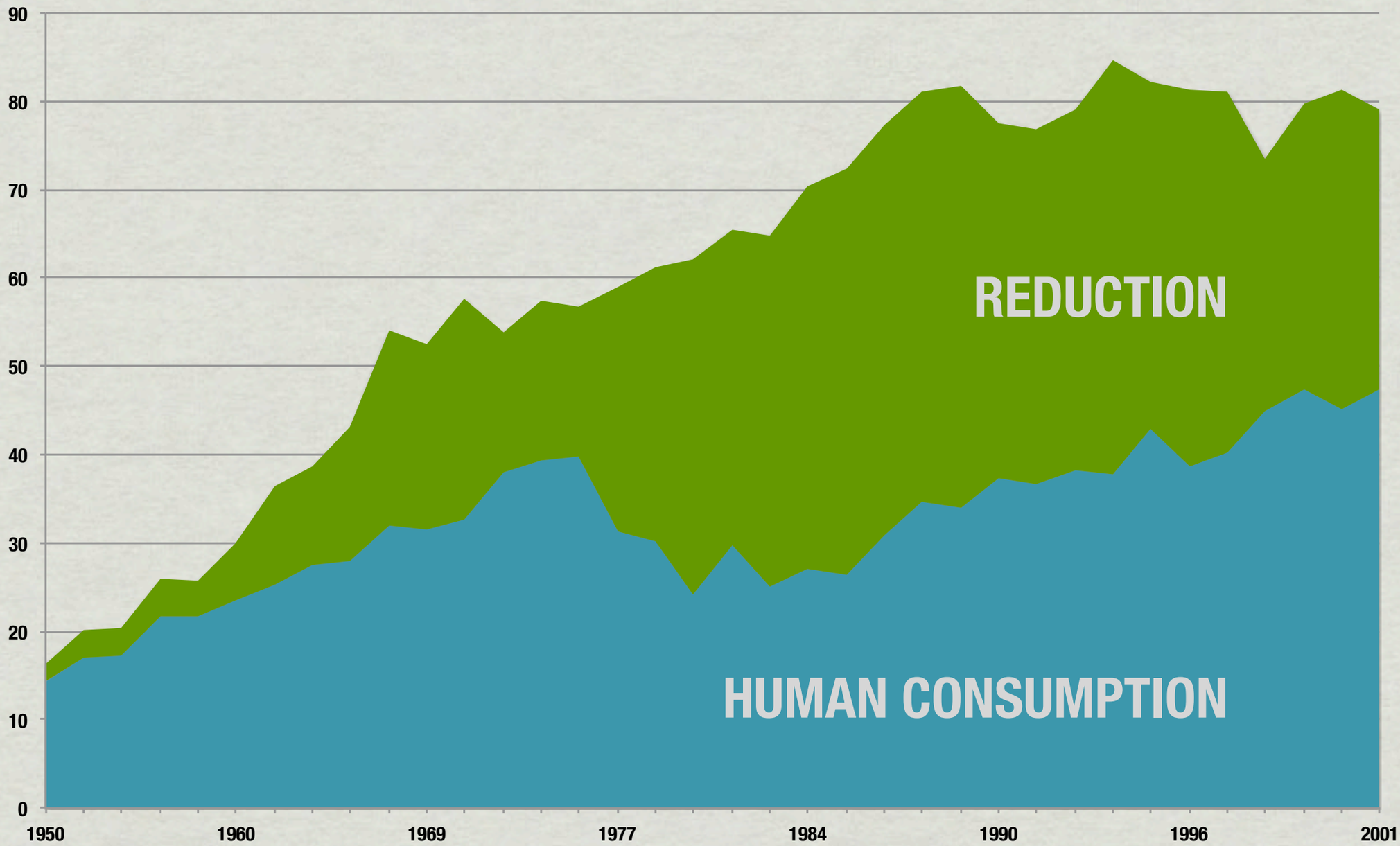
A global concern:

MARINE FISH LANDINGS (MILLION MT)



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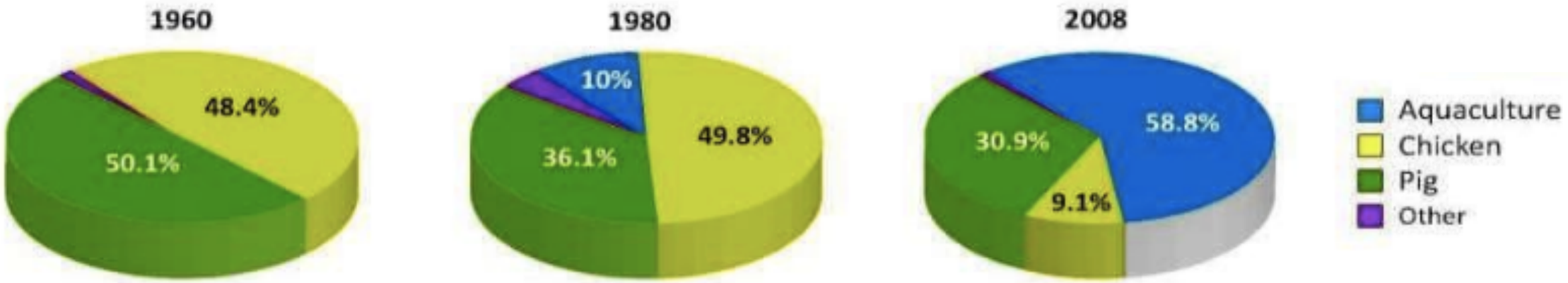
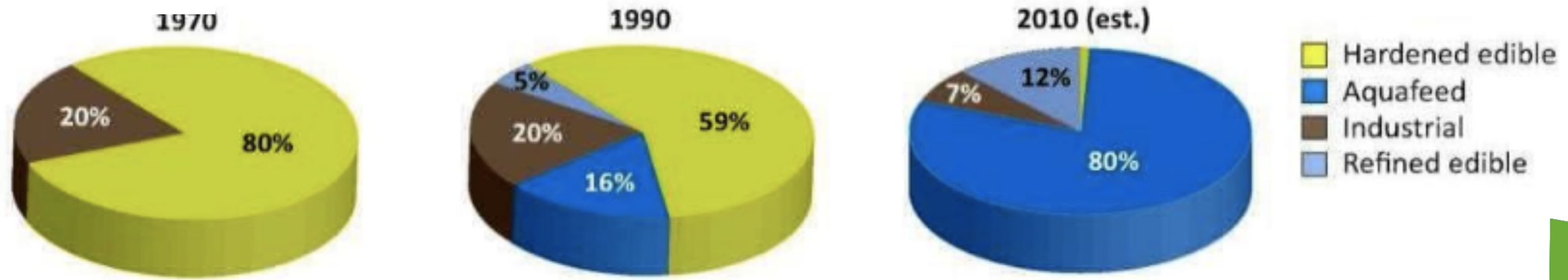
Uses for fishmeal and fish-oil

Fishmeal



Fish-oil



Tveteras 2011 - IFFO

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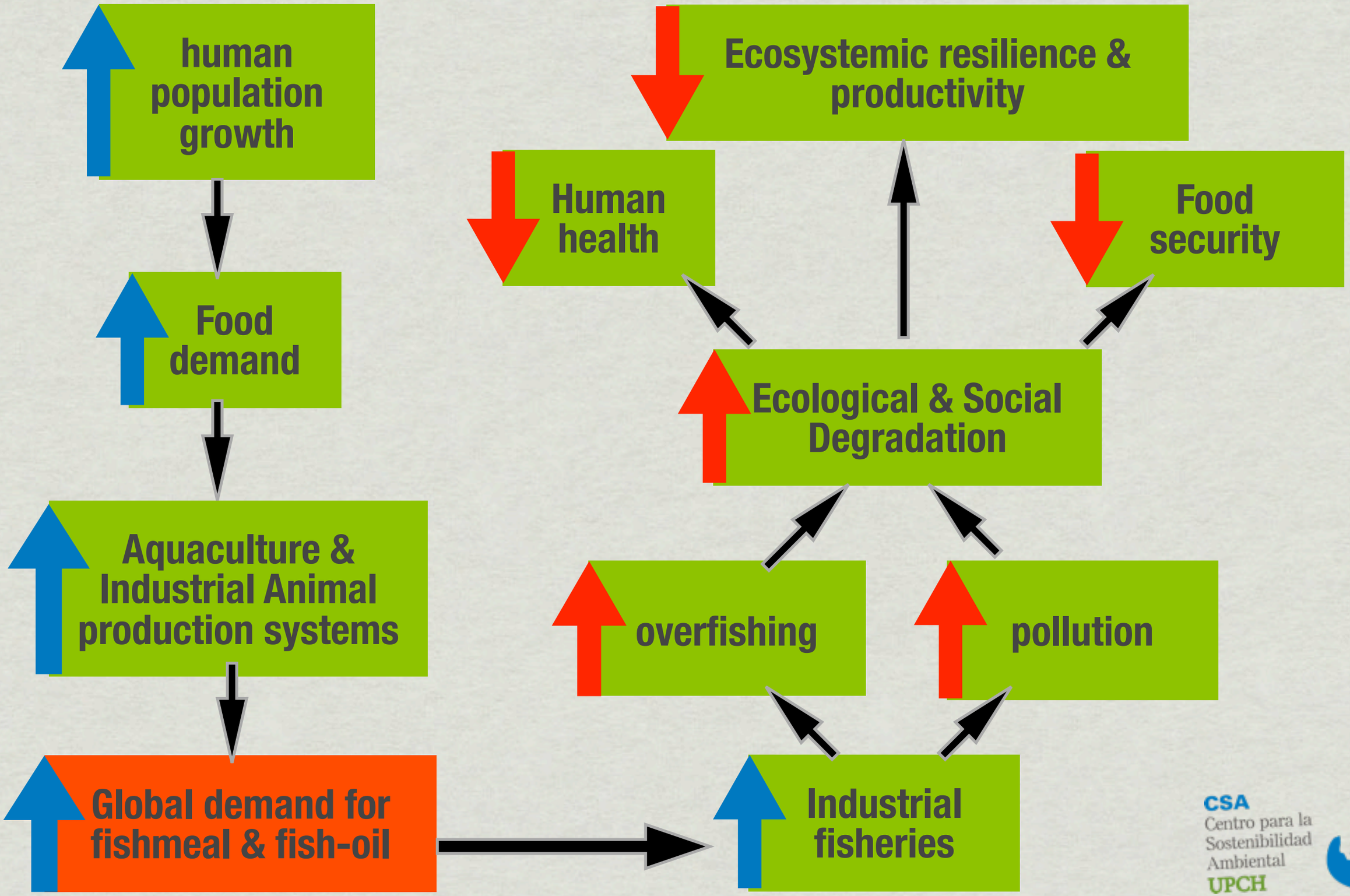
A growth problem



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IFFO argues these are fish people won't eat...

"Fishmeal and fish oil are produced from harvesting stocks of fish for which there is little or no demand for human consumption and also from the use of trimmings left over from processing fish for food. The whole fish are mainly small bony oily and largely inedible such as anchovy, horse mackerel, menhaden, capelin and sandeel." www.iffo.net - Oct 2009

Country / Region of production	Fishmeal Production 2002/2006 (t)	Species
Peru	1.714.000	**Anchoveta**
Chile	798.000	**Jack Mackerel, Anchoveta, Sardine**, other
Iceland	224.000	**Capelin, Blue-whiting, Herring** (incl. trimmings)
Norway	198.000	**Blue-whiting, Capelin**, Sandeel, trimmings, other
Denmark	246.000	**Sprat, Blue whiting, Herring**, Sandeel, other
Other EU*	210.000	**Sprat, Blue whiting, Herring,** Sandeel, trimmings, other
China	348.000	Various
Thailand	402.000	Various
U.S.A.	300.000	Menhaden, **Alaska Pollock**
South Africa	103.000	**Anchovies, Pilchard**
Others	1.176.000	Mainly **Anchovies**
TOTAL	5.719.000	

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WE CAN EAT THESE FISH!

SHOULD EAT THESE FISH!

Small, oily fish are strategic for global food security programs

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Small, oily fish are strategic for global food security programs

We can make BETTER USE of these fish

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FAO promotes aquaculture as the way to secure fish for future generations

Although they acknowledge the large fraction of global catches being reduced into fishmeal, they never seem too concerned

FOOD SECURITY = AGRICULTURE

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Farmed fish cannot replace forage fish in food security programs

If we want to improve global nutrition effectively...

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We URGENTLY need to find appropriate replacements for fishmeal and fish oil

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We URGENTLY need to find appropriate replacements for fishmeal and fish oil

SOY...

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Thanks!

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