

Fisheries Subsidies: Why should you care about them?

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Drivers of dynamics of small pelagic fish

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Bioeconomic Models

(1) Biological Model:

$$\begin{aligned} \text{Net annual change of biomass} = \\ \text{Growth} + \text{Recruitment} - \text{Nat. Mortality} - \text{Catch} \end{aligned}$$

(2) Economic Model:

$$\text{Net benefit} = \text{benefit} - \text{Cost}$$

Solving the basic model

$$R = pH - cE$$

Schaefer Catch Equation: $H = qEx$ (Highly Dubious!)

Therefore $R = (pqx - c) E$

Bionomic Equilibrium:

Under open access, fishery reduces the stock level x until $R = 0$, i.e.,

$$x = c/pq$$

Predictions: Zero rents; overfishing (if c/p low).

Fisheries subsidies

Fisheries subsidies are financial payments from public entities to the fishing sector, which help the sector make more profit than it would otherwise.

Bionomic equilibrium with and without subsidies

$$X = c/pq$$

$$X' = (c-s)/pq$$

$$X'' = c/(p+s)q$$

$$X''' = c/pq(1+a)$$

Questions addressed

- What are the types and categories of fisheries subsidies?
- What is the amount of fisheries subsidies provided by countries, regions & globally?
- What proportion of estimated national subsidies go to small scale as compared to large scale fisheries?

Categories of subsidies

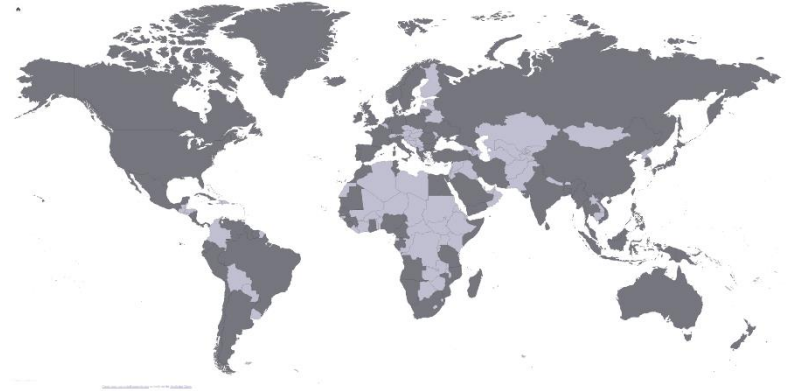
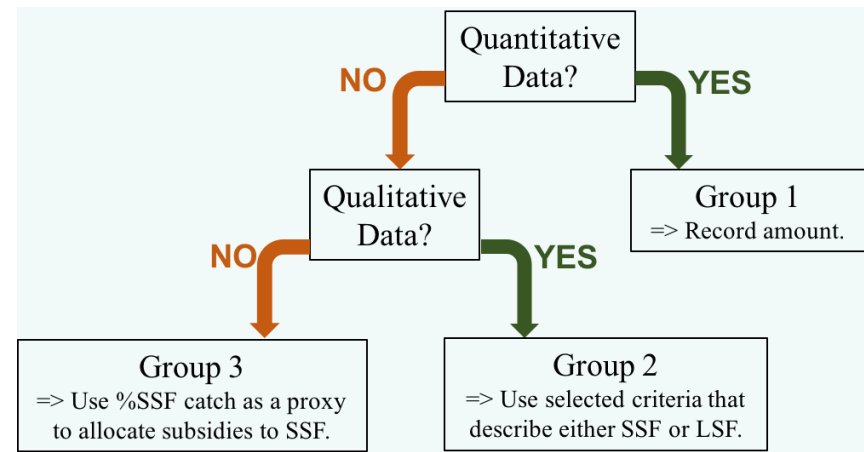
- Beneficial subsidies
(‘investment’ programs in fish stocks).
- Harmful subsidies
(‘disinvestment’ programs in fish stocks).
- Ambiguous subsidies
(programs may benefit or harm fish stocks).

Computing subsidies

- Created a 'living' database of subsidies containing different types, for all maritime countries;
- The first version of the database was published in the mid-2000s (Sumaila *et al.* 2006; Khan *et al.* 2006).

Methods: splitting global subsidies into small- and large-scale fisheries

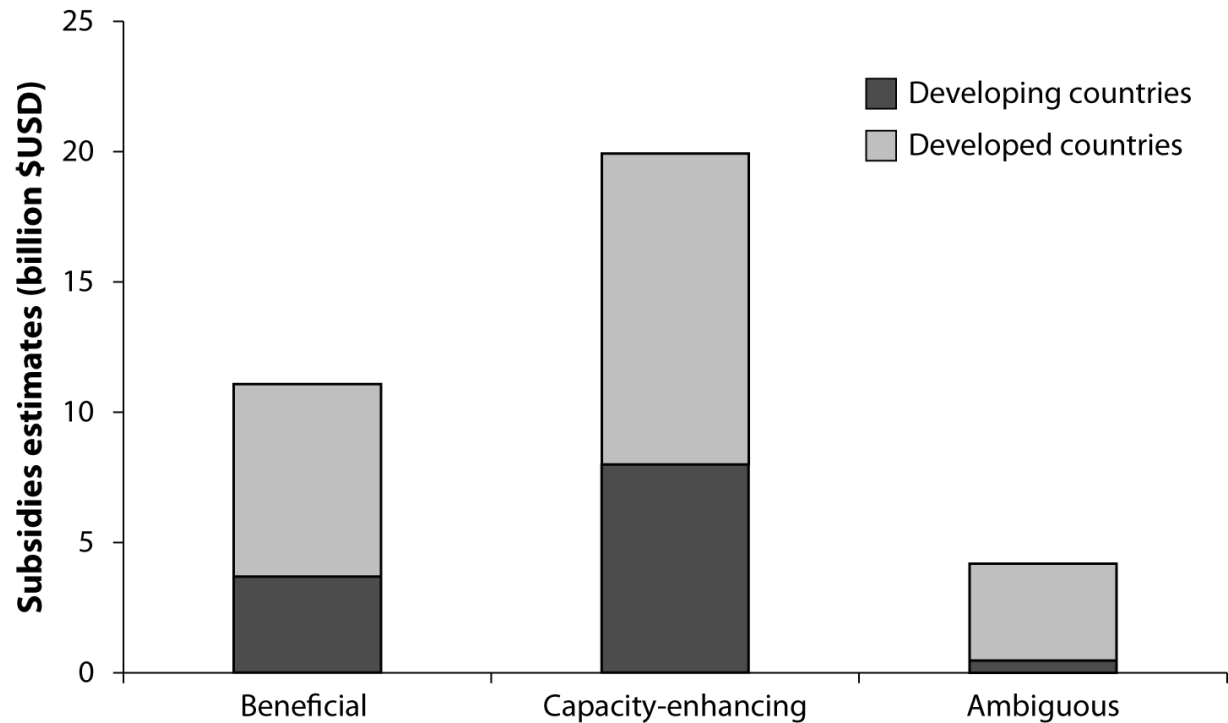
- By country and subsidy subtype;
- Data categorized into 3 groups.
- Assessed 74 countries (out of 147), representing 97% (\$34 of \$35 billion) of global total subsidies;
- Remaining 3% estimated based on sub-region and subtype averages.



The results

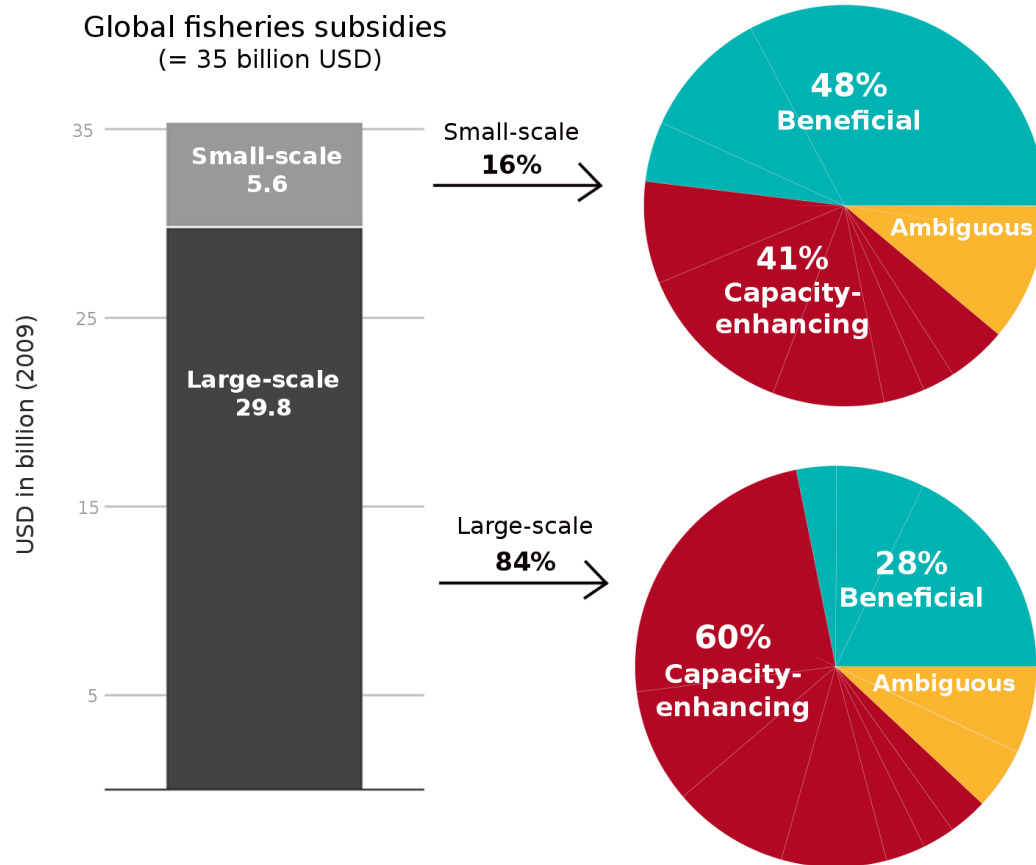
Subsidies are substantial

- Capacity-enhancing subsidies 57% of total USD 35 billion
- Subsidies to developed country fisheries at 65%.



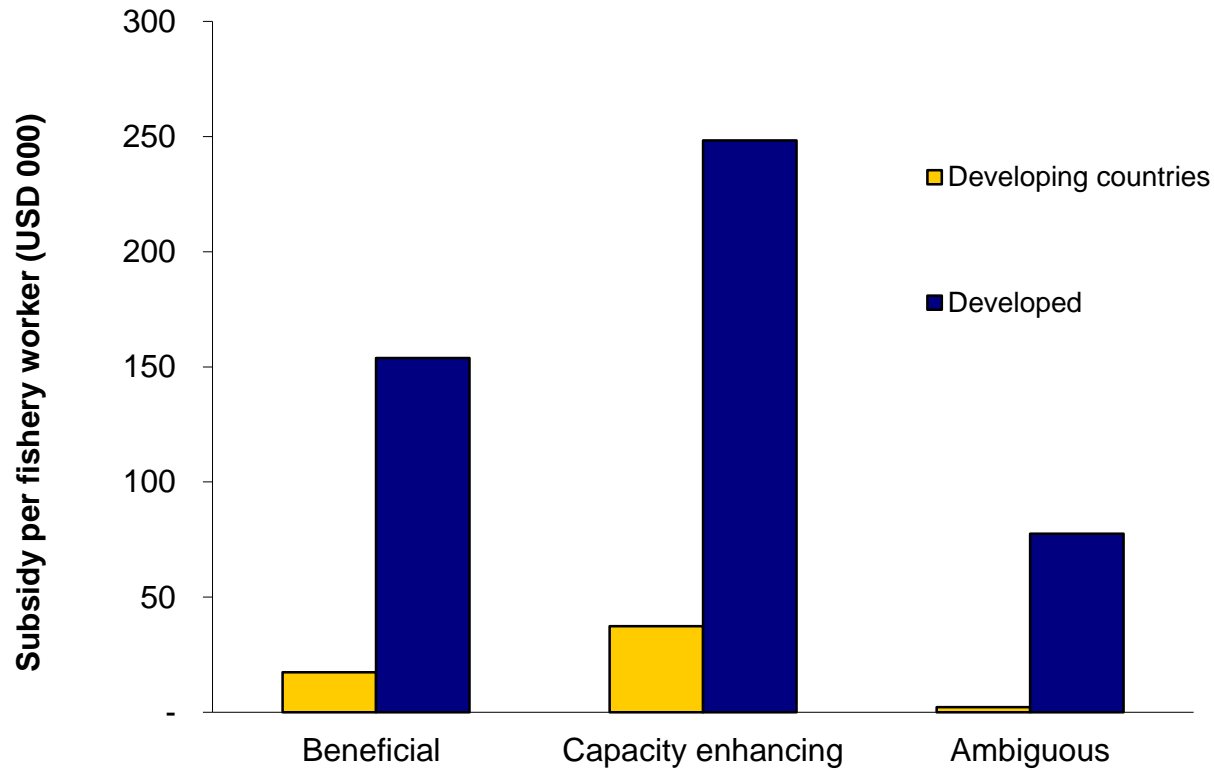
Fisheries subsidies

Small versus large scale fisheries



Schuhbauer, Sumaila *et al.* (in prep.)

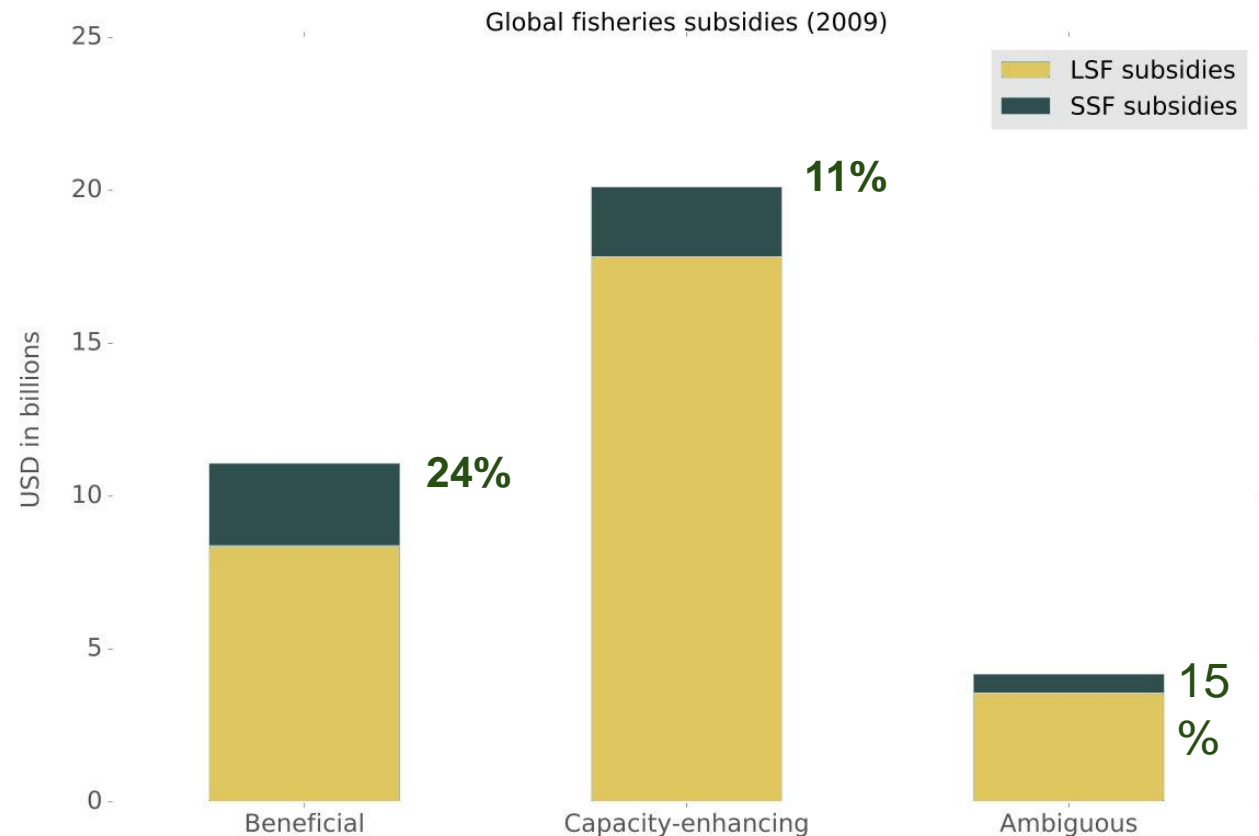
Subsidies are made for inequality



Fisheries subsidies by size by categories

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Most capacity-enhancing subsidies go to large scale fisheries (LSF).



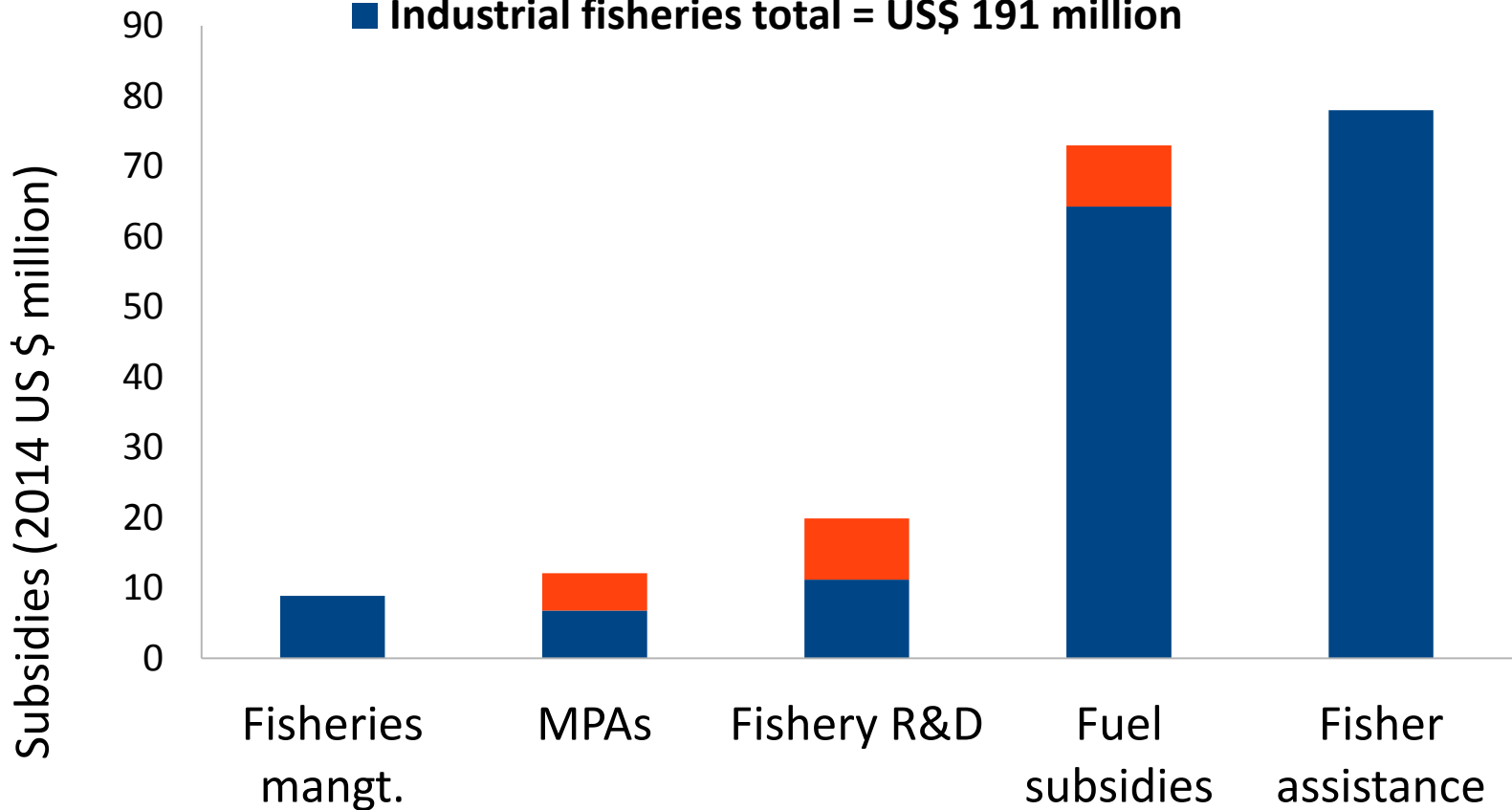
Sumaila *et al.* (2013); Schuhbauer, Sumaila *et al.* (*in prep.*)

Mexican fisheries subsidies



■ Small-scale fisheries total = US\$ 22 million

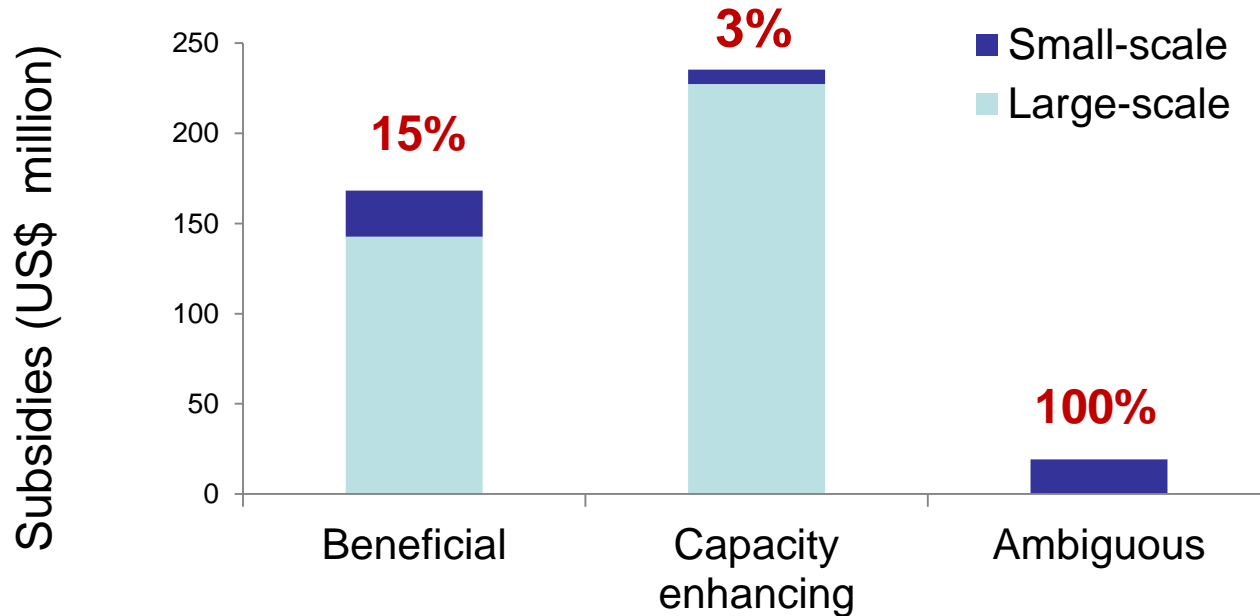
■ Industrial fisheries total = US\$ 191 million



Approximately **12%** of all fishing subsidies go to the small-scale sector

Schuhbauer, Sumaila *et al.* (in prep.)

National effort: Indonesia



Why you should care

- Global fisheries subsidies were estimated at about USD 35 billion;
- Bad subsidies were the highest categories provided at about USD 20 billion;
- Fuel subsidies was the highest type of subsidy provided;
- Only a small fraction of fisheries subsidies goes to small scale fishers;
- Large scale fisheries receive a higher proportion of capacity enhancing subsidies.

The Ghost of Adam Smith

- The invisible hand



Canongate Churchyard, Royal Mile, Edinburgh



1725-1790

The Ghost of Adam Smith

- “The [subsidy] to the white-herring fishery is a tonnage bounty; and is proportioned to the [weight] of the ship, not to her diligence or success in the fishery; and it has, I am afraid, been too common for vessels to fit out for the sole purpose of catching, not the fish, but the bounty.” ...

Push for reform

- Goal:
 - Improve transparency around global fisheries subsidies
 - +
 - build momentum towards a multilateral agreement on subsidy reform.

Push reform at several levels

- National level;
- Regional level;
- Global level.

- Adam Smith Subsidy Reform Scholars:
Develop a cadre of local opinion leaders within countries who really see the benefits of eliminating harmful subsidies.

Core group of countries adopts fisheries subsidies disciplines

- Examples:
 - EU countries;
 - The ACP group of countries;
 - TPP countries;
 - The TTIP countries (EU and USA);
 - The Benguela Commission Countries (Angola, Namibia and South Africa).

Thanks for your attention



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