Challenges for Sustainable Global Fisheries

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contents

- importance and trends
- the world of fisheries
- the driving forces
- selected global issues
- charting a course for sustainability
Global importance

- Livelihood for over 200 million people … often the poorest of the poor
- Food - 20% of animal protein for 2.6 billion people - key part of the diet of the poor – Bangladesh, Senegal, Nigeria
- Africa: additional 6-9 million tons needed by 2020 at current consumption
- Trade - over $70 billion in annual trade … 17 billion for developing countries
- Economic importance - vital to some countries – Peru, Namibia, Maldives, Iceland
- Climate change - disproportionate impact on fishing communities … typhoons, tsunamis
the world of fisheries

Capture: 96 million tons
90% marine

Culture: 56 million tons
43% of global fish food supply
The Oceans

- a global commons
- $\frac{2}{3}$ of the Earth’s surface
- transboundary fish resources
- transboundary fishing fleets
- over half the Earth’s biodiversity
Primary production in the world's oceans is concentrated near coasts and on continental shelves. 90% of world marine capture fishery production comes from the Exclusive Economic Zones and only 10% comes from the high seas.
# Agriculture - Fisheries

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>AGRICULTURE</th>
<th>FISHERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure/ ownership</td>
<td>private property</td>
<td>common property,</td>
</tr>
<tr>
<td></td>
<td>transferable rights</td>
<td>poorly-defined rights</td>
</tr>
<tr>
<td>Resource/ crop</td>
<td>fixed, measurable</td>
<td>mobile, hidden</td>
</tr>
<tr>
<td>Capital</td>
<td>fixed (farm, equip.)</td>
<td>mobile (vessels)</td>
</tr>
<tr>
<td>Weather impact</td>
<td>seasonal</td>
<td>daily + seasonal</td>
</tr>
<tr>
<td>Harvest/ market</td>
<td>seasonal, ‘mono’</td>
<td>daily, multispecies</td>
</tr>
<tr>
<td>Products</td>
<td>durable</td>
<td>highly perishable</td>
</tr>
</tbody>
</table>
A question of scale

- 144 meters
- 14,000 Gross Tones
- 29,000 horsepower
- $70 million
- 1 kilometer x 300 m seine net
- 300 tonnes/ day (freezing)
- 7,000 tonnes storage
- $16 million profit
Global fishery collapse theory draws some critics.

Study Sees ‘Global Collapse’ of Fish Species
November 3, 2006

Menace de disparition totale des stocks de poissons en 2050
Le Monde.

The Seattle Times
Global fishery collapse theory draws some critics.
November 6, 2006

World’s Fish Supply Running Out, Researchers Warn
Friday, November 3, 2006

Study Sees ‘Global Collapse’ of Fish Species
November 3, 2006
drivers

- growing demand
- trade
- technology
- subsidies
- climate change
- weak governance
Illicit fishing activities

- $9 billion/ year - undermines profits of ‘good’ fishers, undermines rule of law
- an offshore economy: e.g. flagged in Vanuatu, owned in Panama, insured in Cyprus, inspected in Uruguay, chartered in Sierra Leone, account in Belize, captain from Korea.
- not petty theft – highly profitable organized crime
- links: anti-corruption, money laundering, tax evasion
**key governance elements**

- scientific advice
- market mechanisms – fishing rights
- equitable allocation of resources – empowerment, transparency and anti-corruption
- marine protected areas
- international instruments

**INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING**

**The NEPAD Action Plan for African Fisheries and Aquaculture**

**SADC Protocol on Fisheries**


**UN Fish Stocks Agreement**
Bank activities

- approx. US$1 billion in projects:
  - coastal zones, infrastructure
  - good governance, biodiversity
  - CDD, co-management

- global partnerships:
  - PROFISH, ICRI (coral reefs),
  - GEF Strategic Partnership (Africa)

- technical assistance:
  - Vietnam, Maldives, India
  - Peru, Mauritania, Madagascar

- global goods:
  - illegal vessel blacklist,
  - cost-effective enforcement

- future:
  - fisheries policy reform;
  - equitable trade – eliminating subsidies
  - adaptation to climate change
Aquaculture: increasing productivity

- tracking livestock and agriculture
- intensification, knowledge-based
- diversification – species, culture systems
- integration and consolidation
- contracting supply chains
- improved quality
- price declines and expanding markets
Aquaculture: changing the face of the waters

- 43% of global food fish supply
- impacts on the environment
- impacts on human health
- pro-poor opportunities
there are now more farmed Atlantic salmon ...

than wild Atlantic salmon in the world.
healthy, environmentally friendly

![Chart showing salmonid production and antibiotic use from 1981 to 2005.](chart.png)
## knowledge-based

<table>
<thead>
<tr>
<th>Species group selective breeding (not GMO)</th>
<th>Gain in growth rate per generation %</th>
<th>Price decline %</th>
<th>Production increase %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic salmon</td>
<td>10 - 14</td>
<td>20 - 40</td>
<td>3108</td>
</tr>
<tr>
<td>Tilapia</td>
<td>12 – 15</td>
<td>20</td>
<td>164</td>
</tr>
<tr>
<td>Pacific whiteleg shrimp</td>
<td>4 – 11</td>
<td>62</td>
<td>854</td>
</tr>
<tr>
<td>Common carp - inbreeding</td>
<td>minus 20 to 30 (China/ Bangladesh)</td>
<td>40</td>
<td>397</td>
</tr>
</tbody>
</table>
**policy measures**

- application of codes, best practices and safeguards
  - good environmental practice makes economic sense
- internalize real environmental costs
- pro-poor aquaculture policies

- maximize knowledge resources – national and regional networks (WFC, NACA)
- provide incentives for aquaculture that delivers environmental services - waste treatment, water purification, restocking
Conclusions

- new directions for the World Bank – from development to management of sustainable fisheries
- livelihood of over 200 million people, the marginalized, the poor, the hungry
- millennium goals/ targets, most stressed ecosystems
- limited WB coverage and technical capabilities – formal and informal partnerships
- focus on improved governance and poverty alleviation
- major political, social and technical challenges - adjustment
- solutions outside the sector - Bank’s strategic advantage.
Let’s not underestimate the difficulties …

- insatiable world markets driving overexploitation
- mobile, hidden, variable resource; mobile capital
- often a poverty trap and livelihood of last resort, important food source
- fish property rights unclear, closing access means exclusion – winners and losers, but
- open access invariably leads to overfishing and loss of economic rents
- like land reform fishery reform is politically difficult
- short on answers – particularly on social and economic solutions to accompany the advocacy for reform
www.worldbank.org/fish

World Bank Publications:

Where is the wealth of nations?: Measuring capital for the 21st century

Aquaculture: changing the face of the waters (in press)

Scaling up marine management

Stern report (climate change)

http://www.hm-treasury.gov.uk