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Green Growth: Implications For Fisheries & Aquaculture

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GREEN GROWTH: Implications for FISHERIES and AQUACULTURE

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*Views expressed are those of the author and not necessarily
those of the OECD



What is Green Growth?

- Paying attention to all types of capital (natural, human, physical and intangibles)
- Dual role of natural renewable “capital” (take but preserve – the fish stocks)
- Public policy intervention is fundamental for natural renewable resources
- Innovation and market creation



Why Green Growth and aquaculture?

Green Growth will help:

- Reduce impacts on the environment (green).
- Increase overall profitability of the sector (growth).
- May produce additional fish for a growing population (green and growth).
- Make the capture fisheries sector more competitive (growth).



A Note: Fisheries vs. Aquaculture

Fisheries:

- Natural renewable resource (fish stocks)
- But with potential broader eco-system impacts

Aquaculture:

- Controlled production system
- Excess feed, medicine, escapees, space in competition with other users



How to optimise production and minimise externalities

Capture fisheries:

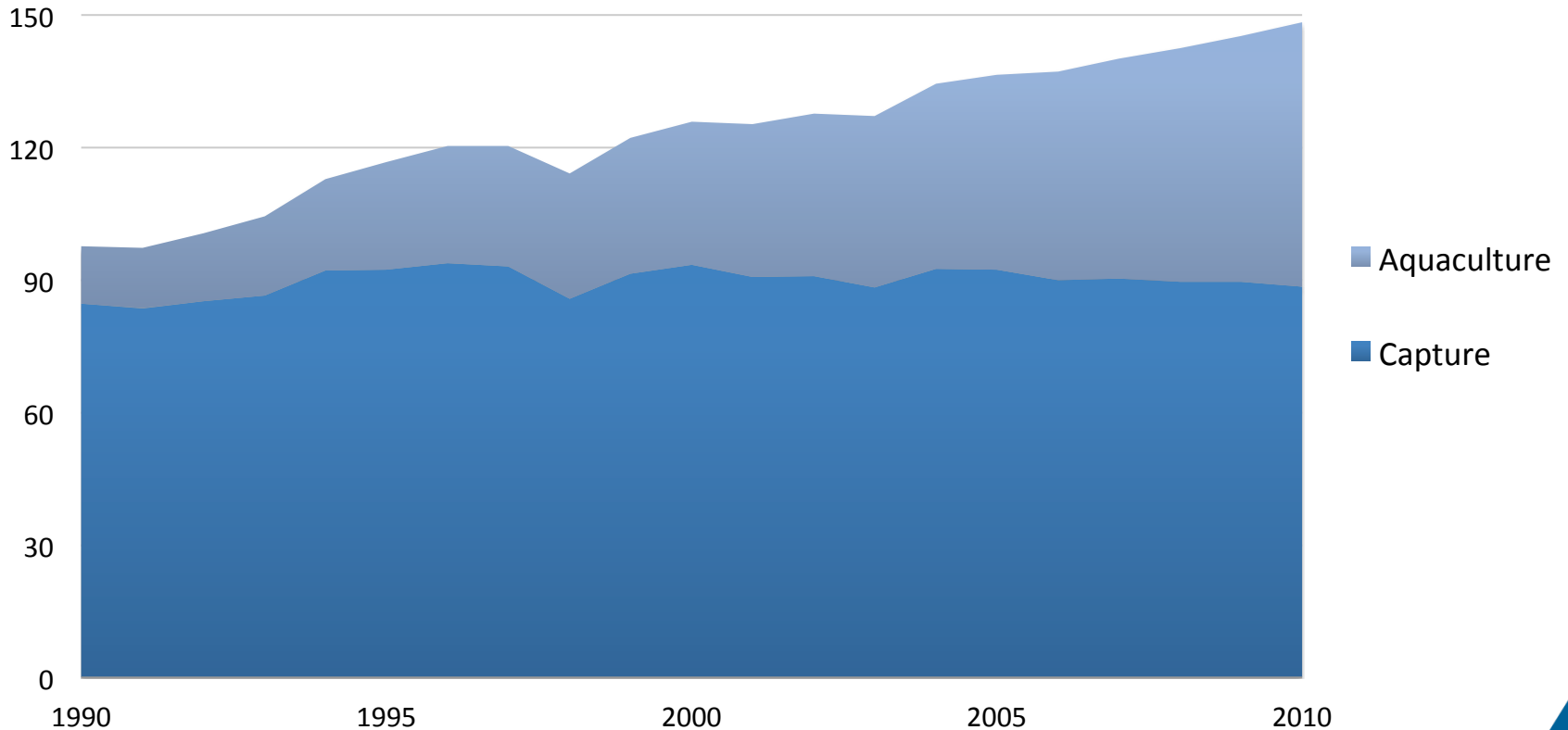
- Managing for maximum economic rent generation (MEY and MSY discussion)
- Incorporating broad eco-system management considerations (birds, non-targeted species, mammals, sea floor impacts etc.)
- Reduce energy use in fisheries
- Quality improvement/handling



The increasing importance of aquaculture

World fisheries production

Million tonnes



Source: FAO



Challenges, limits and solutions for green growth in aquaculture

GG Challenges	Variables to control	Policy framework	Measures (examples)
Discharges	Feed, feed conversion, feed components	Regulations, innovation, good management practices	Feed quotas, fallowing, cleaning, transferable discharging permits, taxes, IMTA, reuse, zoning
Feed resources	Feed	Innovation	Grains and vegetables, Use of wastes
Diseases	Density	Regulations, innovation, good management practices	Distance, vaccine, fallowing, zoning
Escapees	Storms, accidents	Regulations, good management practices, Innovation	Stronger cages, sterilisation, paying local fishermen to catch escapees
Space	User conflicts / conflicting uses	Coastal zone/ocean management, regulations	Reserved areas(zoning)
Food safety	Toxic, drugs or environmental waste in product	Regulations, Good management practices, Enforcement capacity	Establishment of pre-approved zones for aquaculture development, Enforcement, sampling and certification
Regional development	Development planning	Permits and zoning, environmental approvals, Investment aids, coastal zone/ocean management	Establishment of pre-approved zones for aquaculture development
GDP contribution	Growth of sector, marketing of product	Marketing and promotion, research and development, infrastructure investments	Support private certification schemes
Development	Capital, skills	Education and training, labour standards	Continuing education for local populations



How to optimise production and minimise externalities

Aquaculture:

- Ensure that the regulatory system incorporates accounts for externalities, i.e. discharges and escapees, etc.
- Over regulation vs. under regulation
- GAA Guiding Principles for Responsible Aquaculture
- Certification



An aquaculture example

- *Strategy (2009) for an Environmentally Sustainable Norwegian Aquaculture Industry:*
 - Licensing of farms (transferable and bankable and limited entry for some species)
 - Regulates operation and installation of aquaculture facilities
 - Restricts the use of antibiotics
 - Addresses the disposal of dead fish
 - Keep logbooks (escapees, ,medicines, feed, etc.)
 - Technical standard for the aquaculture installations



Norway 2009 Aquaculture Strategy

- Antibiotics-use was reduced from approx 50 tons in 1990 to approx 1 ton in 2009.
- Within the same time span the salmon and trout production increased from less than 150 000 tons to approx 900 000 tons.



Green Growth: A Challenging Agenda

- Risk reduction to encourage sustainable long-term investment in the capital intensive aquaculture sector
- Improve acceptance of sustainable aquaculture by limiting negative externalities on the (marine) environment
- Improve the image of the industry
- Translating lessons learned from best practices into specific (policy) action



Where capture fisheries and aquaculture intersect

- Fish as Feed – fish meal and oil
- Use of Space – avoiding user conflicts
- The market for fish and fish products



Fisheries is just one of many activities

- Total use of ocean and oceanic activities have increased considerably over the past decades, and will continue to do so as an important source of economic growth.
- To achieve comprehensive Green Growth we need a new way of thinking regarding ocean governance within which we can better gauge and make necessary trade-offs.



Externalities from other sectors

Ocean and Coasts are:

- Source of food
- Source of medicine
- Major transport activities which is particularly important for economic growth
- Mineral and oil/gas extraction
- Tourism and leisure activities
- Dumping – agricultural and industrial run-off
- Habitat – coastal development
- Cultural importance
- Climate Change Regulator





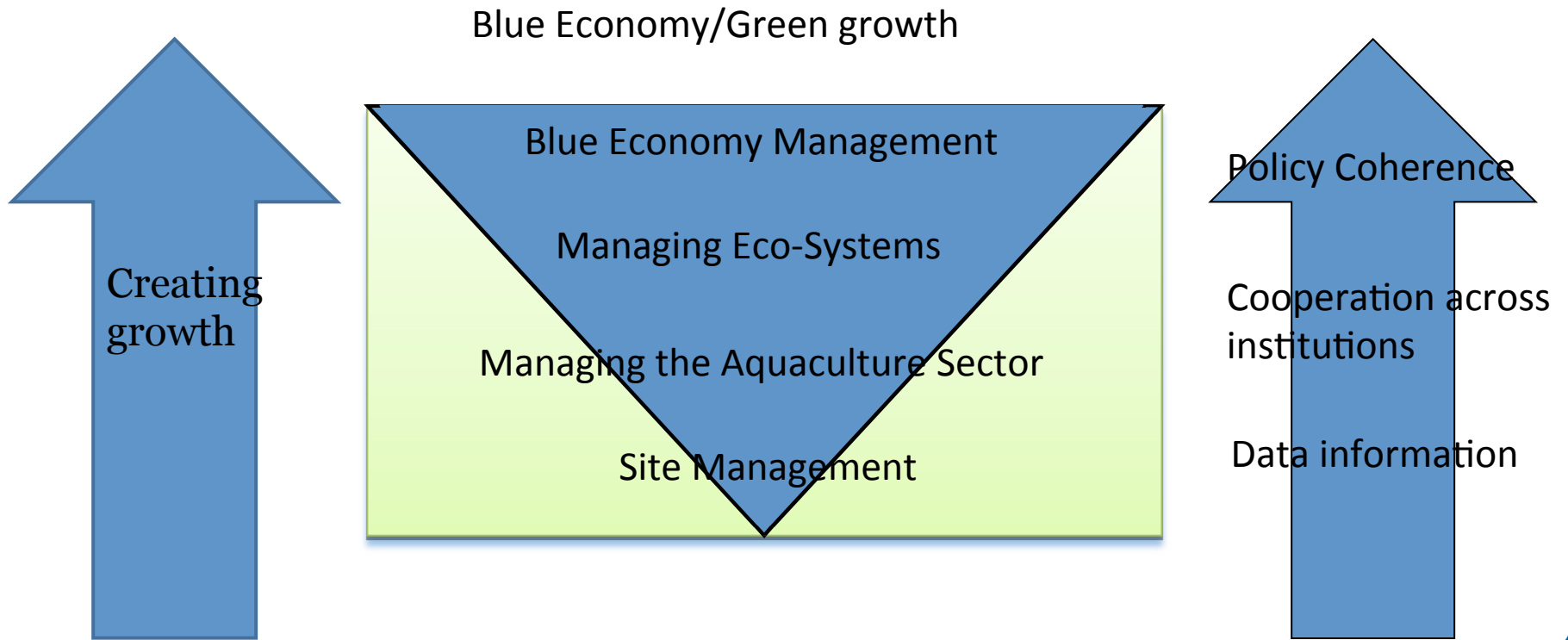
Integrated Ocean Management Model

Use economics to better:

- Value activities
- Assess impacts
- Get incentives right among users
- Shape institutions and governance
- Monitor progress – the need for appropriate GG indicators for fisheries and aquaculture



Moving Forwards to Green Growth





For more information



Trade and Agriculture Directorate

- Visit our website: **www.oecd.org/fisheries**
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