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**INT'L ENVIRONMENTAL &
MARINE RESOURCE LAW
CLASS SEVEN
OFFSHORE RESOURCES,
FISHERIES & ECONOMICS**

THE COMMONS

Tragedy of the Commons

Concept of overuse inherent in appropriating all benefits while externalizing costs (leading to overuse of resource) if public good

General economic concept of environment as provider of services/goods

THE COMMONS

Commons Example

Overgrazing of village commons given individual livestock ownership, cost of grazing externalized to village with production eventually crashing due to resource overuse

Tragedy of Commons Game at

<http://www.wu-wien.ac.at/usr/ai/mitloehn/commons/>

PROPERTY ISSUES

What are examples of public goods? Marine setting & traditional law?

Is a public good the antithesis of property, and what is the function of property as a public/private matter?

What is the interplay between “public” regulatory jurisdiction & “private” property?

EXTERNALITIES

Externalities vs. property

Idea of property usage tying marginal costs to marginal revenues, efficient use as preventing over exploitation of resource

Idea traditionally with externalities in that can achieve same effect with a “tax” equal to marginal social detriment payable upon infliction of externality (in that sense will rationalize use, regardless to whom cost payable)

ENVIRON REG APPROACHES

*Environmental Regulation in General Terms,
Viewing Pollution as Externality, etc.*

**Concern about efficiency in tradition of command
& control economy**

**Competing ideas of either imposing tax on
externality (charging to pollute) versus creating
property rights and allowing market to achieve
efficient allocation of resources**

NATURAL RESOURCE VS ENVIRON ECONOMICS

Issues of natural resource economics are problems of capital use over time, looking at non-renewable resources (eg, oil) versus renewable resources (eg, biological resources like fisheries)

Environmental and natural resource economics are not the same thing, subject to overlap how ever in areas like enforcement where there are similar issues on property versus addressing externalities as competing approaches

Formal reviews at M. Cropper & W. Oates, Environmental Economics: A Survey, Journal of Economic Literature Vol XXX (June 1992), pp. 675-740; N. Hanley, J. Shogren & B. White, Environmental Economics in Theory and Practice 177-215, 274-334 (Oxford U Press 1997)

FISHERIES ECON

Renewable Resource (Fisheries)

Technical problems linking ideas of biological growth based on stock sizes, tied to problems of overfishing linked with commons issues traditionally

Hidden scientific issues typically in linear vs discrete growth models (sexual mature fish only reproduce, a periodicity issue; eco-system issues tied to idea that there may be multiple layers of prey and species interdependence so that single species models inherently limited, multiple species models are extremely complex)

FISHERIES ECON

In enforcement terms, fisheries economics has both organizational aspects and allocation aspects

The oceans may be viewed in the alternative as public good (no reg, high seas tradition) or competing regulation problem (modern regional councils allocating fishing rights based upon advice of scientific committees)

FISHERIES ECON

Competing Jurisdiction Approaches

Traditional analyses of multi-jurisdictional settings like bays, pollution also from onshore (like polluted rivers) versus different catching of fish in bordering waters (Chesapeake Bay example)

FISHERIES ECON

Three options on coordinating regulation in competing jurisdictions to reach optimal result

1) Agreements among parties following Coase to produce agencies and decisions for regulation, buying off miscreants in offering share of sustainable managed catch (arguably traditional law's approach if seas beyond 12 mile territorial seas followed as catch grounds linked with idea of national fishing fleet regulation)

2) Formulation of a new polity to manage resource (arguably what exists in regional ocean management under LOS)

3) Federal structure creating a superstructure in which costs and benefits can be internalized (what would have happened if central LOS structures were left in charge of resource management decisions on regional level, but where trade-offs?)

FISHERIES ECON

Fisheries Policy Approaches (Enforcement)

Basic problem is how to avoid resource overuse in common property fisheries (note different problem from aquaculture as private property, albeit with externalities like shrimp farming pollutants killing mangroves, etc)

Idea is harvesting activity of individual fishermen or firms as diseconomy in form of excessive fishing effort and overexploitation

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Fisheries Policy Approaches (Enforcement) Cont'd

**Individual transferable quotas
(property, problems?)**

Limited entry (vessel licensing, regulatory approach limiting by catch, is it property & problems?)

Limited opening (not strictly catch allocation, but limits by time with effects on stock preservation, is it property & problems?)

Outside trad economics models, ideas like fisheries reserves to address biological dynamics in stock, problems like regulating catch size (no juveniles, etc. linked with by-catch problems)

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Traditional fisheries economics with a neoclassical bent views problem as solely a property rights exercise, Maximum Sustainable Yield (MSY) as concept accepted at time of LOS

Newer ecological economics views tends to challenge single species models and stable views of stock based upon view of fisheries as highly variable, multi-species systems, contemplating options other than property rights as approach to regulation, leading to management models outside property framework like fish reserves and a preference for simple regulation

FISHERIES ECON

**How are these concepts reflected in
FAO reports, etc?**