SCARCE: COMMON FLOW RESOURCES WHO BENEFIT? WHO DOES SOCIETY WANT TO BENEFIT?

FRED L. OLSON
Global Ocean Consultants, Inc.
3801 Newark St., N.W., #432
Washington, DC 20016-3022
USA
(202) 686-1391

For presentation at a poster session of the Second Annual Meeting of the International Association for the Study of Common Property, Friday, September 27, 1991, 12:00-15:00, University of Manitoba, Winnipeg, Manitoba, Canada.

Abstract

This is a theoretical/conceptual contribution but it is related to fisheries.

Many common properties around the world have become scarce and potentially valuable because of increased population, and improved technologies: water, forests, grazing lands, waterfowl, mammals, reptiles, fisheries, the radio and TV spectrum, geo-stationary satellite positions, airport take-off and landing slots, the-air-we-breathe, the-gene-pool, etc. Who is going to benefit from these common resources? These scarce common resources can not be valuable unless one has title to them - - title over their entire range during their lives. After establishing jurisdiction and title there is the political decision or consensus as to who benefit from these scarce common resources. This is followed by the legislative and executive decisions to set up and operate the institutions to carry out the political decision or consensus as to who benefits.

These common resources can be classified according to use:

1. required for sustaining life,
2. contingency for later unspecified use,
3. recreation, or
4. commercial.

This allocation, according to use, will change over time as population and technologies change. One political decision: Is the allocation done once for all time or continuous over time? What are the problems and consequences?

Contents

Tables

Charts

I. Value equals demand minus costs

I The value of common property in situ is not equal to the value added; is equal to the economic rent or potential economic rent.

Demand is a function of population, income, and tastes and preferences. Population and income have been increasing while tastes and preferences can go either up or down. Therefore demand usually goes up.

Costs are a function of technology; management, research, and enforcement; and prices of inputs. Prices of inputs can go up or down. Technology can result in cost reduction, or increased product or service, or market increasing. Examples of cost reduction include: sailing vessels to mechanical power; hand labor to power blocks; automatic longliners, shrimp peelers, and crab pickers; monofilament gill nets; transponders; more efficient aircraft; etc.

Examples of increased product or service include: larger aircraft; drip underground irrigation; geostationary satellites positioned closer together without interference; shrimping with pots in deeper and hazardous areas; and shrimp aquaculture.

Surimi and blackened drum are examples of increasing the market.

Costs are usually going down, therefore value in situ is usually going up.

II. Who benefit? Which comes first? The political process or the appropriate institutions? The chicken or the egg?

Different institutions direct the value to different beneficiaries or combinations of beneficiaries. Closed seasons benefit suppliers like boat builders and builders of excess processing plants and fishing gear.

Limited entry benefits users or resource owners (citizens).

Lotteries, or first come/first served, are forms of limited entry which benefit users (See Table 1). If these properties are transferable rights forever, then only current users benefit at the expense of future users because they receive the capitalized value of all future net returns. If these properties are time-limited privileges all users benefit equally (both current arid future).

Limited entry with bidding benefits resource owners (citizens).

A system of administered prices is a third alternative method of allocating flow resources to users. Users of grazing lands have paid administered prices since the Taylor Grazing Act. Experience shows that these administered prices have not kept pace with real prices. As a result, the difference between lower administered prices and higher real prices has been capitalized into the value of the grazing-cow-unit allocation. Administered prices are easier to use if there is a parallel private market as there is for grazing lands and timber stumpage.

TABLE 1. WHO BENEFIT BY LENGTH OF TIME & METHOD OF TRANSFER OF FLOW RESOURCES

	LOTTERIES OR 1ST COME /1ST SERVED	BIDDING
TRANSFERABLE RIGHTS FOREVER	CURRENT USERS	CITIZENS & CUR. USERS
TIME—LIMITED PRIVILEGES	ALL USERS	CITIZENS & ALL USERS

TABLE 2. EXAMPLES OF WHO BENEFIT BY LENGTH OF TIME & METHOD OF TRANSFER OF FLOW RESOURCES

	LOTTERIES OR 1ST COME /1ST SERVED	BIDDING
TRANSFERABLE RIGHTS FOREVER	B.C. VES. Lic. AK. FISH Lic. ITQs H_2O RIGHTS TV&RADIO Lic. AIRPORT LAND & TAKEOFF HOMESTEAD ACT	
TIME—LIMITED PRIVILEGES	BIG GAME Lic. SATELLITE POS. AK. HERRING ROE ON KELP	TIMBER STUMPAGE

Taxes benefit taxpayers.

In reality these flow resources were first abundant, requiring only a laissez faire institution.

As populations and incomes grew and technology improved, these abundant flow resources became scarce. (Over fishing and collapse of stocks.) Having a closed season was an easy institution to ration these scarce resources.

The reality of closed seasons, however, became politically unacceptable. (Some year-round commercial fisheries were only open 1 day or a few days: Pacific halibut, North Pacific herring, yellowfin tuna in the Eastern Tropical Pacific; or for hours: North Pacific herring roe fishery.)

Chicken. Egg. Chicken. Egg. Etc.

With abundant resources laissez faire institutions could handle the fisheries allocation issues until about 1920. Then the political process changed the allocation institutions to closed seasons, limit on the size of vessel, limit on the size of trip harvest, minimum number of days in port, etc. (See Chart 1.) This situation was in effect from about 1920 to 1972. Then the political process created limited entry with such examples as the British Columbia vessel licenses and Alaska fishing gear licenses. (See Chart 2.) By about 1988 the political process developed individual transferable quotas (ITQs), another form of licenses. How long will it be before the political process will develop bidding? (See Chart 4.)

CHART 1. SITUATION:
1991 OPEN ACCESS

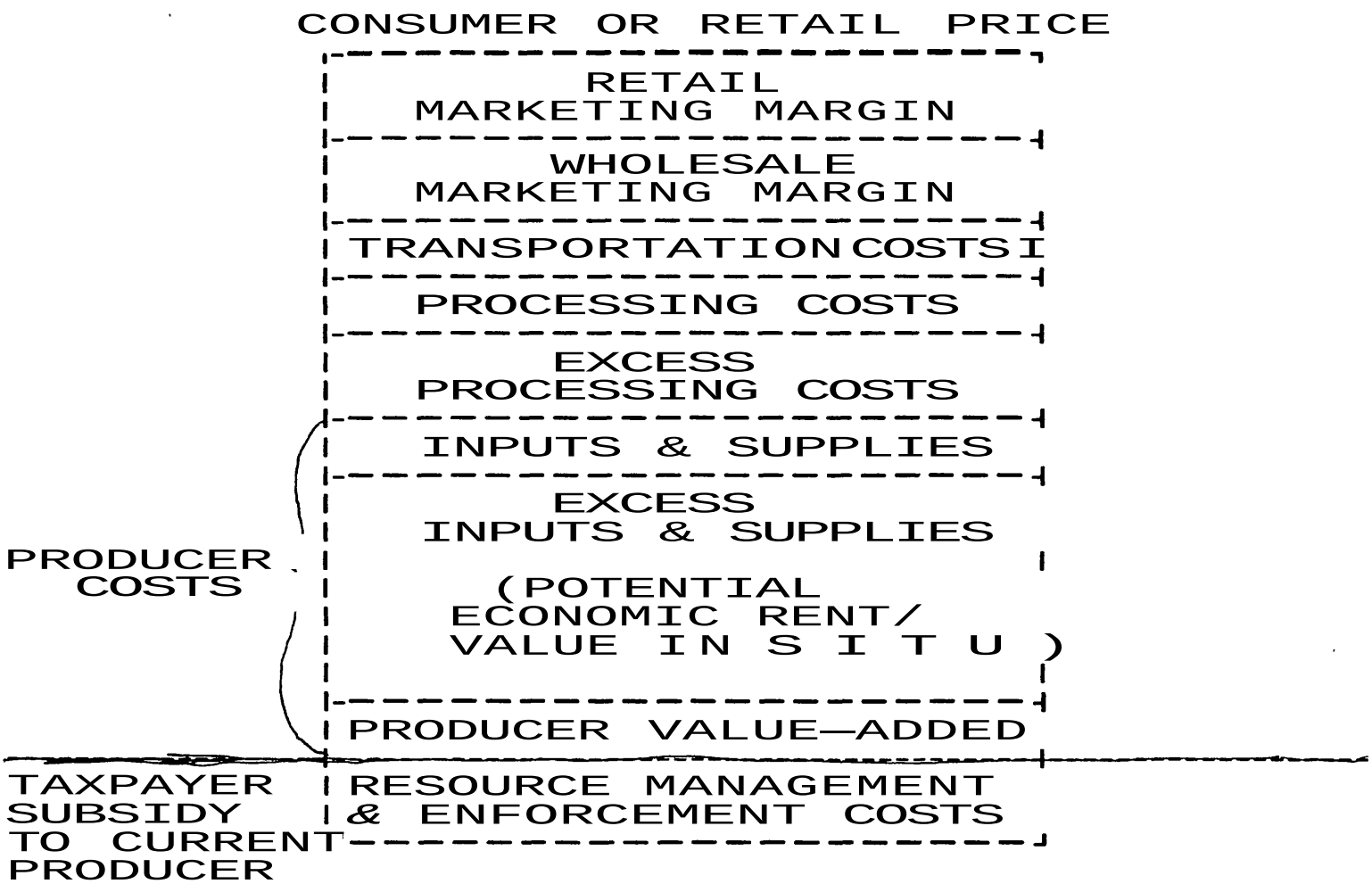


CHART 2. SITUATION:
1991 LIMITED ENTRY

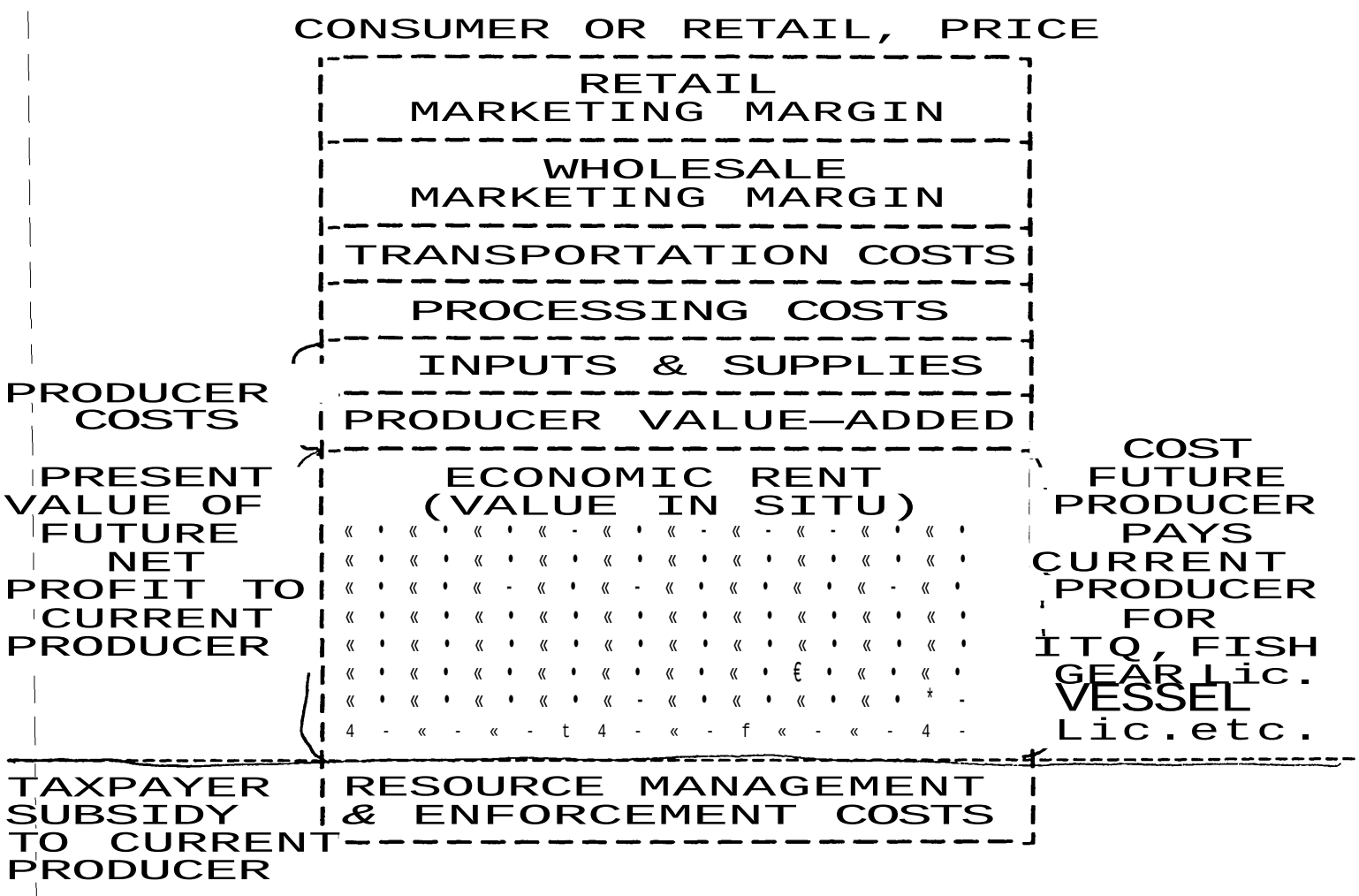


CHART S. SITUATION:
RESOURCE MANAGEMENT & ENFORCEMENT COSTS
INCLUDED IN MAGNUSON ACT

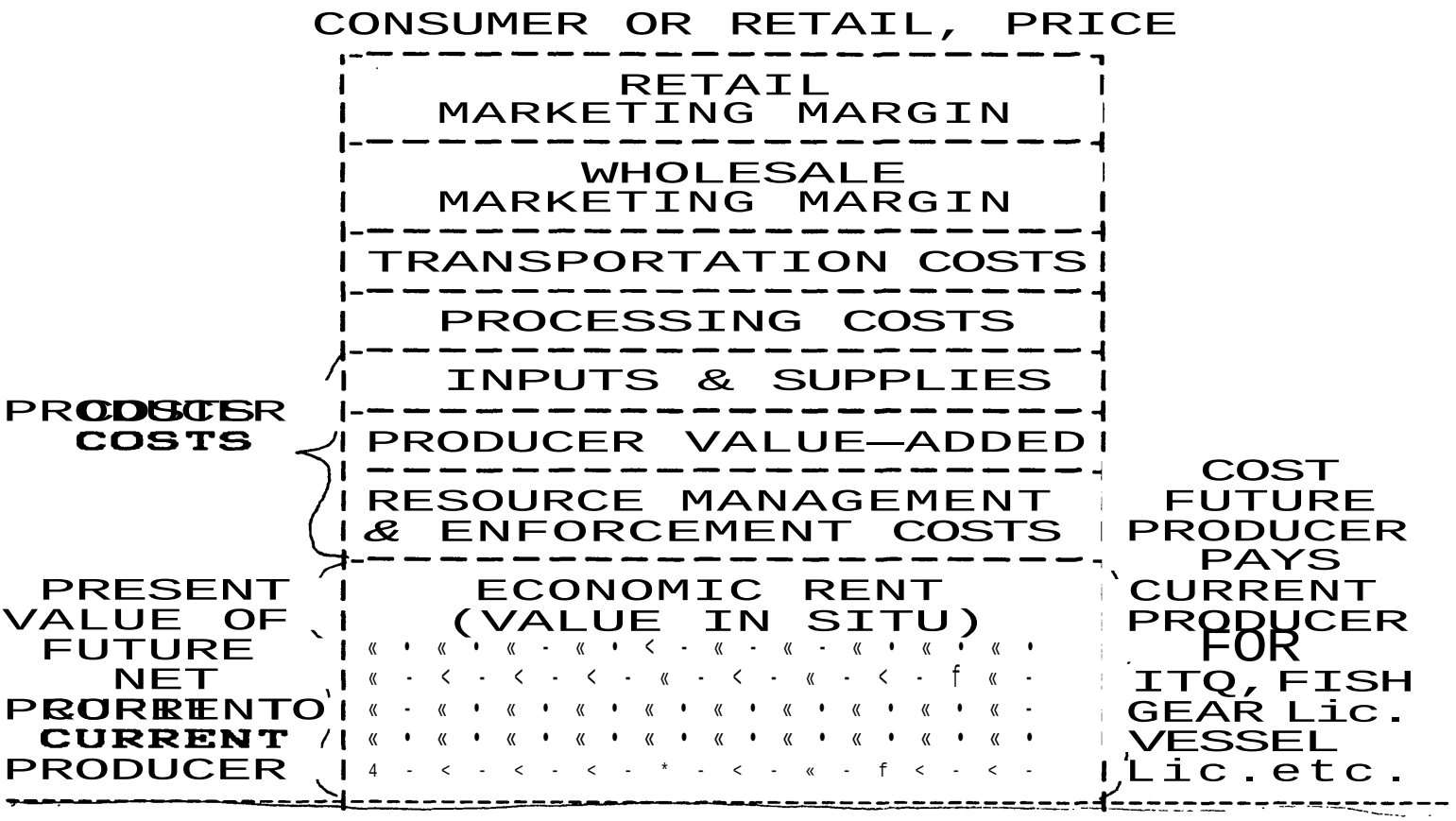
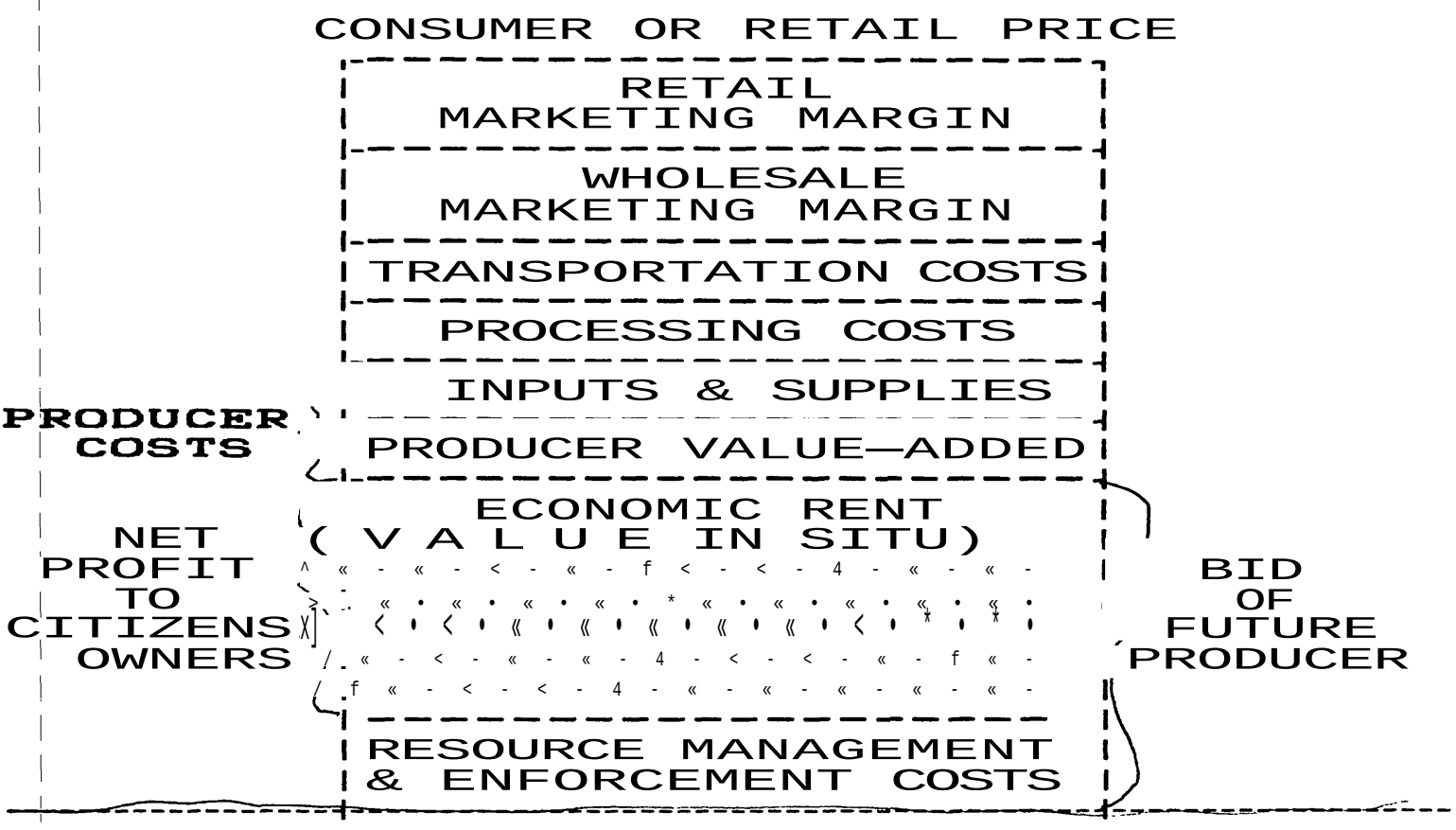


CHART 4. SITUATION: BIDDING



The size of the annual economic rent (value in situ) is a function of the shadow labor prices of all future bidding producers. The lower the shadow prices the higher the annual economic rent.

The size of the present value of all future annual economic rents is a function of expected value of these future annual economic rents and the marginal interest or discount rates facing the bidders. (If future annual economic rents are expected to be equal to current annual economic rents and interest rates facing bidders is 10 percent, then the present value of all future annual economic rents is equal to 10 times the annual economic rent. With 5 percent it is 20 times the annual economic rent.)

III. Developing bidding institutions

Characteristics to consider when developing bidding institutions include the economic life of the user investment and the user's discount rates. These could include the life of the aircraft, fishing vessel or gear, satellite, irrigation canals, TV and radio licenses, production buildings and facilities, grazing-cow-unit, etc. (Based on depreciation rates, length of mortgages, etc.)

Discount rates of users must be compared with discount rates of federal or provincial/state government owners. User discount rates are nearly always greater than the discount rates of the federal or provincial/state governments.

The generated flow of funds can be used for:

a. The general fund of the provincial/state or federal government;
b. Research, administration, and enforcement costs of fisheries management?
c. Social benefits for fishers such as health insurance (United States) and retirement credits; and/or
d. Increasing the value of abundant lower-valued resources.

The political process must be used to develop a consensus on who society wants to benefit from the flow of scarce valuable resources. Then the institutions to deliver those benefits must be developed and put into place. Then the institutions must be fine-tuned to deliver the political will.