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THE RENT DRAIN STUDY - TOWARDS A GLOBAL ESTIMATE OF RESOURCE RENT LOSSES

INTRODUCTION

1. The recent publication of the World Bank's fisheries sector approach paper entitled "Saving Fish and Fishers - Toward Sustainable and Equitable Governance of the Global Fishing Sector" and the launching of PROFISH, a global partnership programme, signalled the re-engagement of the World Bank into fisheries.[1] PROFISH is financially supported by a consortium of donors including several Scandinavian countries, France and the Bank and is technically supported by FAO, IUCN and WorldFish. Its work programme has two streams of activities: to mainstream fisheries into the economic planning of target countries and to develop 'global goods' such as high-level awareness of fisheries issues and 'toolkits' to address these issues. The rent drain study is one of the PROFISH activities led by FAO and links directly to raising awareness at a global level and has a practical application in justifying reforms at the country level.

2. A study design workshop was co-organized by FAO and the World Bank in January 2006, with participants from academia and fisheries and development institutions. The workshop outcome is reflected in part in the below.[2]

3. The study concept was recently presented in a special and well-attended session at the thirteenth biennial International Institute of Fisheries Economics and Trade (IIFET) conference, Portsmouth, UK, 10-14 July 2006. The study concept was well received and contacts have been made with a wider group of possible study collaborators.

[1] The World Bank has had a low level of lending and engagement in fisheries and aquaculture. In 2003, for example, the total project value of the fisheries project portfolio amounted to just US $ 420 million of which only US $ 10 million for marine fisheries. This low funding level to fisheries & aquaculture had several reasons including an overall poor evaluation of past Bank fisheries projects and weak staff resources to engage in this sector.

[2] The full workshop report can be found at the following address: ftp://ftp.worldbank.org/pub/profish/

BACKGROUND

4. Historically a major objective of fisheries plans and strategies has been to maximize the physical quantity of fish production while maintaining the sustainability of the fish resources (see Box 1). The pursuit of maximum sustainable fish production has tended to hide the fact that in economic terms the optimum level of exploitation may be at a lower level of physical production. Poor returns also result in increased pressure for subsidies aggravating the economic losses incurred in many fisheries. The importance of a thorough investigation of net economic benefits in world fisheries arises from several factors:

- resource rent is an indicator of production efficiency and efficiency in fisheries management;
- unrealized resource rents entail losses in incomes to fishers and the fishing industry and more importantly losses to national economies;
- non-extracted resource rent is an element of global fisheries subsidization that can contribute to distortions in global fish trade and in the access to and utilization of internationally shared fish stocks.

Box 1 – Objectives of fisheries management

The Millennium Ecosystem Assessment Report identified marine ecosystems as among the most threatened on out planet. Overfishing is recognized as continuing threat not only to the marine ecosystems but to efforts to combat hunger and eradicate poverty. Overfishing and resource depletion has a disproportionately high impact on these vulnerable and marginalized sections of society that are a primary target of the Millennium Development Goals. Overfishing not only contributes to resource depletion, but is wasteful of goods and services - the same quantities of fish can be harvested with far less capital investment and effort. This capital and the resources deployed, including substantial subsidies, can in principle, be used for alternative forms of economic activity, reducing the pressures on fishery resources and creating more robust economies.

Maximizing biological yields. One of the targets of the Johannesburg Summit on Sustainable Development is to restore depleted fish stocks to levels that can produce the maximum sustainable yield (MSY). The objectives of many fisheries management regimes echo the physical, or biological focus of the Johannesburg Plan of Action. FAO reports on the health of the world's fish stocks and the Convention on the Law of the Sea makes specific reference to MSY. However, because of the deficit of information on the economic health of the world's fisheries, the recent World Bank report "Where is the Wealth of Nations" was unable to take specific account of fisheries.

Resource rent. The rent of a renewable natural resource such as a fish stock is given by its societal value. This is determined by several factors including its biological reproductive capacity, the ease with which it can be used or harvested with current technologies and the demand for the good and services it can provide. Fishery resource rents are dissipated because of the open access characteristic of most fishery resources. In an open access fishery no price can form for the use of the fishery resource itself leading to the perverse economic incentive for individual fishers to overexploit it. This perverse incentive is often compounded by the provision of subsidies and by incidental environmental impacts of fishing on aquatic ecosystems. In the absence of information on resource rent, the real costs and real returns to society, i.e. taking full account of subsidies, environmental impacts and depletion of fishery capital – remain obscure and hidden. Without such economic information, efforts to restore fish stocks and conserve ecosystem integrity based solely on the biological arguments often give way to a short-term vision and political expediency leaving fishing communities becoming progressively poorer.

5. The study seeks to establish a detailed baseline on which future progress in the management of world fisheries can be measured and on the benefits that can be realized through progress in meeting WSSD fisheries targets. The study is expected to reveal that substantial levels of resource rent may be recoverable that are currently lost.

6. The magnitude of possible economic losses in the world's fisheries is indicated by the finding of the seminal 1992 FAO study "Marine Fisheries and the Law of the Sea – a Decade of Change". The study estimated an enormous aggregate economic loss incurred by the world's fishing fleets of US $ 22 billion for the base year of the study (1989) and not yet accounting for capital cost. If the latter is added, aggregated loss was estimated at US $ 54 billion, or nearly three quarters of the estimated gross revenue of US $ 70 billion of global marine fish harvest at that time.

7. The 1992 study attributed the large losses to two factors. First, the unmanaged open access condition of most of the world's fisheries. Fisheries economics predicts that profit and loss are zero of a fishery in an open access bio-economic equilibrium. As real world conditions are rarely if ever in equilibrium, some losses can readily be explained by the asymmetry in the ease of entry into and difficulty of exiting from a fishery. However, the estimated enormous loss called for some additional probing and yielded a very plausible additional answer: massive subsidization of the fishing fleets and related industries. Subsidies were – and continue to be – provided for fishing vessel construction, fuel and other operating costs, and infrastructure facilities such as fishing harbours and allied facilities.

8. The study has clearly had a strong impact on drawing the attention of the international community to the relationship between fisheries subsidies and unsustainable levels of fishing effort and fishing capacities. This may ultimately result in an agreement being reached in the near future within the WTO framework that would disallow the granting of subsidies contributing to the fuelling of overfishing and overcapacities.

9. The focus of the international debate on the role of subsidies has however detracted from the inherent potential of well-managed fisheries to generate large economic wealth and directly and indirectly contribute to economic growth and poverty alleviation. The magnitude of this potential is likely to be enormous and not realizing it can hardly be afforded, especially by poorer fishing nations.

STUDY OBJECTIVES

10. The study seeks to achieve the following objectives:

(a) complement the conservation agenda with sound economic arguments for good fisheries management;

(b) foster a paradigm shift from focusing largely on Maximum Sustainable Yield (MSY) to maximizing net benefits from a fishery;

(c) raise awareness at global and national level by changing the focus of the debate to economic issues at major global and regional fora;

(d) make a solid economic case for fisheries reform targeted at finance and planning ministers, key development policy actors including World Bank country directors and UN resident coordinators;

(e) elaborate an enhanced arsenal of tools and approaches to estimate and capture lost rent and simultaneously address poverty and allocation issues

STUDY METHODOLOGIES

11. In the Washington design workshop, several approaches were considered to have merit and to be mutually supportive. These are:

(a) A fishery-by-fishery case study approach and subsequent extrapolation to a global level

(b) A national rent / rent loss estimate based on aggregated case studies and other information

(c) A global estimate based on global data sets

Case studies

12. Case studies were considered to be the fundamental units for building a comprehensive global estimate. Ideally the case studies should follow a similar methodology to enable comparative analysis and facilitate compilation of results. However it was acknowledged that in order to produce a global estimate in the desired timeframe (2 ½ - 3 years), the study would often have to rely on making use of existing cases where prior data collection and some analytical work already were available.

13. The case studies should ideally represent all major types of fisheries (at minimum at least 25 cases studies would be required). A working definition of a fishery drawn from an FAO discard study was used as a basis for compiling a list of fisheries which might be (i) representative in terms of the global ecoregions; (ii) which might offer possibilities of replication of results, or extrapolation to other fisheries based on a minimum of assumptions; and (iii) where data may be available upon which loss of rent, or potential net benefits might be estimated.

14. The potential value of historical case studies was also noted as illustrated, for example, by the Norwegian purse seine fleet where the fleet had decreased from 468 vessels in 1968 to the current fleet of 86 vessels, although the volume and composition of catches had changed dramatically during that period.

National estimates

15. National estimates were seen as either an aggregate of national case studies, or as a derivative of national environmental accounts. The case study material could complement and enhance any national environmental accounting for the fisheries sector.

Estimates based on global data sets

16. Updated global estimates based on global data sets were seen as a useful complement to the case study aggregation approach. The approaches used in previous estimates (e.g. by Christy in SOFA, 1992 and by Garcia and Newton, 1997) could be enhanced. The twin track approach to estimating global rents and rent losses would also serve as a means of verification and highlight areas of discrepancy and possible future study.

Possible scenario assumptions

17. In estimating the potential loss of rent, or loss in net benefit, the comparison should be made between these values, e.g. net benefits, estimated under the current management regime (i.e. at the time of the case study) and the potential net benefits to the fishery if it is managed to give a maximum economic yield. In this regard, the Washington workshop suggested that several basic scenarios could be considered:

(a) the theoretical case of the fishery managed at MSY including the estimated costs of reforming the fishery to achieve MEY (e.g. costs of a buy-back scheme, retraining of displaced fishers) but without altering the structure of the fishery to achieve efficiencies (e.g. the ratio of industrial to small scale landings remains unchanged; or the ratio of landings from ice vessels to freezer vessels remains unchanged);

(b) the case of the fishery managed at MEY but taking into account the costs and additional potential benefits of structural improvements in efficiency (e.g. replacing industrial fleet with more cost-effective small-scale fishers or vice versa); and

(c) inclusion of allowances for dissipation of potential rents, or decreased net benefits as a result of compliance with a social agenda which, for political and other reasons, is not feasible to change (e.g. maintaining a certain level of overcapacity in an artisanal fishery where there are few prospects of developing alternative livelihoods).

18. In the scenarios listed above at least two variants exist: (i) where the fishery is managed at MEY without a change in the fish stock and (ii) where the fish stock rebuilds as a result of the management measures. In the first variant the gains accrue essentially from reduced costs of harvesting whereas in the second variant there is an added benefit from stock rebuilding which also implies a longer timeframe in the estimate.

Project analysis framework

19. The performance of a fishery can be evaluated from the point of view of both the private sector (fishing firms) and society at large. This distinction is fundamental in project analysis for which there exists a well-grounded body of methodological guidelines. The structural adjustment of a fishery from a badly managed to a well management state can be formulated in project terms and project economic and financial analysis methods applied. The advantage of the use of the project analysis framework is that it offers a ready set of common definitions and procedures that would assure methodological uniformity and comparability across the envisaged case studies.

Estimation approaches

20. Several estimation approaches were considered to have application by the Washington workshop. Mathematical models could be used in data poor situations, e.g. in developing countries where data quality may be low and where data collection may be difficult, or costly. These techniques were considered particularly useful to identify critical variables – those having a major influence on costs, or earnings and allowing data collection or analysis to focus on such variables. Ideally bioeconomic models could be used but it was acknowledged that lack of data would limit widespread application in developing countries at the current time. Less data intensive approaches through, for example, linear programming models as applied, for example, to the Peruvian small pelagic fisheries may be an alternative modelling approach.

ANTICIPATED STUDY OUTPUTS

21. Finding the 'magic numbers' of current rent losses and potential rent gains at national, regional, or global level is but a first step. However, it is a vital building block in developing political awareness of the benefits from economically sustainable fisheries and it sets the scene for the second and more important step, namely the recovery of fishery wealth. This requires a well orchestrated dissemination strategy for the study findings to make a convincing economic case for reform of fisheries, to open dialogue on the mechanisms for affecting such reforms, and to obtain the political commitment to reform. The target audience of government decision-makers will require concise and cogent story line to affect a paradigm change from maximizing physical yields to sustaining 'net economic benefits'. Three regional/interregional workshops and one large international conference are proposed to be convened and high quality articles placed in flagship publications (e.g. SOFIA) and journals to widely disseminate the study findings. In one or two countries, on a pilot basis, the study would seek to disseminate its findings to national and local fisheries stakeholders to initiate a process of national fisheries policy reform.

22. The study is also expected to establish a firm body of approaches and methodologies for fishery rent assessment studies and enhance the capacity of research groups/institutions in developing countries in their application.

STUDY COORDINATION

23. The study is being coordinated by the FAO Fisheries Department, under the guidance of an international steering group headed by Professor Ragnar Arnason, Economics Department, University of Iceland. Overall study oversight is provided by the PROFISH Steering Committee.