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## Book reviews

*Institutional Economics and Fisheries Management: The Case of Pacific Tuna*, edited by Elizabeth H. Peterson. Published by Edward Elgar Publishing, Cheltenham, UK, 2006, pp. xvii + 186, ISBN 1 84376 782 1 (pbk), £49.95.

The focus of this book is on how an institutional perspective in economic analysis can improve fisheries management. The current failure of fisheries policy to either lead to the economically sustainable (and, in most cases, biologically sustainable) management of fisheries resources, or to incorporate management tools advocated by economists, is argued to be symptomatic of a failure of the economic analysis of fisheries to incorporate aspects of new institutional economics. Thus, the traditional economic analysis of fisheries has been viewed as a ‘blunt and inflexible instrument for decision making’ (p. xiii).

With the analysis and understanding of institutions and the transaction costs involved with differing institutional arrangements, the potential resource conflicts that can occur with differing policy instruments will be lessened. The premise of this book is that sound fisheries management requires a clear definition of the policy goals for a fishery, and the subsequent institutional structures capable of achieving these goals. Through this, a complete analysis of the economic effects of different policy instruments can be conducted.

In Chapter 1, the approach of new institutional economics, along with the property right systems used to manage fisheries, is outlined. Different entitlement systems, ranging from input to output controls that provide access for individuals to fishery resources are discussed. The author surmises that no ‘perfect’ entitlement system exists, but that optimality can be improved with consideration of the characteristics of the underlying resource which is to be exploited (p. 10).

An introduction to the Western and Central Pacific tuna fishery is presented in Chapter 2. This fishery is used as the basis for the case study in the book. The Western and Central Pacific tuna fishery spans a number of nations and accounts for close to 70 per cent of total Pacific Ocean tuna catch. The author stated that overall there has been a significant increase in catch over the past few decades (close to 400 per cent); however, there are concerns over the sustainability of these catches. Evidence is presented from other studies to support the hypothesis that the biomass of the fishery is economically over-exploited. There is no surprise in this as over-exploitation is a common problem in many fisheries.

In Chapter 3, the author presents two broad arguments as to why current management in fisheries has failed, and specifically why the management of the stocks in the Western and Central Pacific tuna fishery has failed. Fishery policy-makers, it is argued, have either ignored or misunderstood the concept

of comparative advantage and have not considered the Tinbergen principle. Policy-makers have concentrated on developing policies which would 'force' a comparative advantage in fisheries. It is stated that governments have the responsibility to create an environment in which private agents can use information to 'seek out' areas of comparative advantage. The Tinbergen principle, which states that the number of policy instruments used should equal the number of policy objectives, has been ignored with either one policy instrument used to pursue multiple policy objectives, or multiple policy instruments used to pursue a single policy objective.

In Chapter 4, an applied analysis of the institutional structure of an international fishery is presented. The author argues that for an optimal institutional structure, a single policy-maker is required. In a competitive game between policy-makers in an international fishery, the steady-state outcome approaches the open-access outcome with exploitation and declining yields. However, in a voluntary cooperative structure, the optimal outcome measured in terms of fishery rent can be achieved as if a single policy-maker was involved. For voluntary cooperation to take place, a potential Pareto improvement must exist to provide the incentives for the nations to cooperate. The design of institutional structures to distribute the potential increase in rent with improvements in cooperation is the subject of the second half of the chapter with particular reference to the Western and Central Pacific tuna fishery.

The suggested institutional structure for managing the Western and Central Pacific tuna fishery is that of a single commission, responsible for policy setting. The suggested roles for the commission are to set policy targets, facilitate cooperation between the member nations, monitor and enforce the rights of nations and fishers, and to arbitrate disputes. Recently, such a commission has been established in a preliminary way in order to manage the fishery. Despite an extensive look at different institutional structures aimed at managing the Western and Central Pacific tuna fishery, the study does not deal with differing policy instruments which could be used to manage fishery resources, and any conflicts that may emerge with the use of different instruments or the effect of constraints to institutional development of instrument use.

The distribution and expenditure of the revenues that would flow from such an institution for member nations is the focus of Chapter 5. As with oil revenues, the revenues from this natural resource have the potential to improve the welfare of the exploiting nations. Despite this, there is also a potential for these revenues to be misspent. It is argued that the revenues generated in the fishery should be spent to encourage private sector development, with a focus on the policy settings used to regulate the private sector. Several methods of accumulating the funds from the fishery are discussed. The author argues that the best structure would be to establish a trust fund. The advantages of such a trust would be to open the financial markets of member nations which would allow a hedge against country-specific risks, be

a means to overcome some of the intergeneration issues created through natural resource exploitation, and to increase the transparency of the revenue system.

In Chapter 6, a discussion of trading fishing access for foreign aid is provided. The author argues that trading aid for access rights (essentially subsidising the access rights of donor nations) is detrimental to developing nations with fishery resources as it decreases the transparency of fishing revenues, decreases the flexibility of government spending, increases the reliance on aid, and can harm the local development of fisheries. Good governance is argued to be more important than aid in stimulating economic development. Examples of how access for aid deals in Western and Central Pacific tuna nations has not led to increased economic development are provided. This region has a relatively large amount of per-capita aid which has not resulted in significant changes in the rate of economic growth. Again, the failure of policy-makers to recognise the Tinbergen principle in aid for access deals has meant that both sustainable fishery exploitation and economic development have been hindered by the blanket policy.

In the final chapter of this book, a discussion of the 'natural resource curse' is provided. From a review of the literature, the author deduces that a major determinant of the occurrence of the 'natural resource curse' is having weak institutions. For fisheries, and natural resources more broadly, good policy and strong governing institutions are argued to be a necessary but not sufficient condition for sustainable resource development. Broader strong institutions to manage the macro economy are also required to avoid the 'natural resource curse'.

In general, the major message of this book is that institutions matter. On this, two themes are prevalent in this book. The first is that the Tinbergen principle should be adhered to in fisheries and natural resource policy making and institutional development. The use of one policy instrument to achieve more than one policy objective has been seen to fail to achieve either. For example, trading fishing access for aid by Western and Central Pacific tuna fishing nations has not improved economic development and has led to the unsustainable exploitation of the fisheries. The second theme, relevant for international fisheries, is that policy setting by individual nations, either attempting to force a comparative advantage or to compete with other nations in terms of the share of catch, will lead to unsustainable outcomes. Thus, there is a need for a broader institutional structure to manage international fisheries, such as an international commission as suggested in this study.

This book provides a valuable contribution to the literature on fisheries economics. Much analysis has been conducted on the outcomes of various fisheries management instruments in terms of resource rent and fishery harvests and effort. However, little attention has been given to the barriers to success of many policy instruments in terms of the institutional environment in which they will operate. In this book, both a case study and a general framework, which allows for the consideration of institutional aspects of

fisheries management, are provided. Thus, this book provides a useful reference for fisheries policy-makers and natural-resource economists. The book would make a valuable addition to any collection of fisheries economics texts.

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## Corrigendum

The author would like to draw the reader's attention to an error in the following article:

Coram, A. (2006). The optimal allocation of water along a system of rivers: a continuous model with sequential bidding, *Australian Journal of Agricultural and Resource Economics* 50, 313–326.

It is not necessary to restrict the solution to the case where there is only a single scrap value. This means that part (b) of Theorem 1 can be ignored. This relaxation of the conditions required for a solution to the problem does not, in any way, affect the main argument in the paper.

The author apologises for this error and any confusion it may have caused.