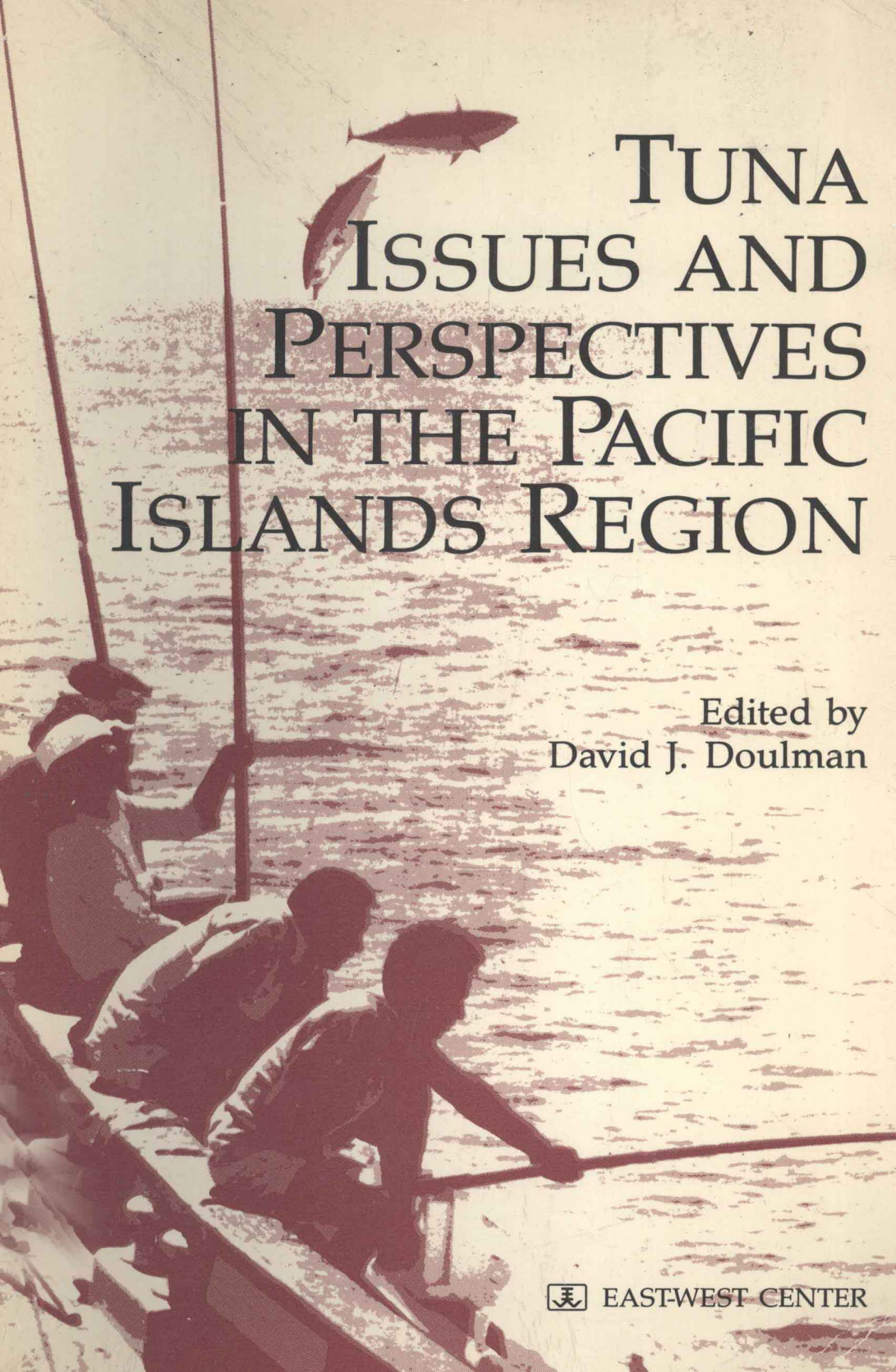

TUNA ISSUES AND PERSPECTIVES IN THE PACIFIC ISLANDS REGION

Edited by
David J. Doulman

EAST-WEST CENTER

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Foreword

It is a great honor to have been asked to write a foreword to this publication on tuna and tuna-related issues. Fishing has always been—and still is—vital to the subsistence way of life of South Pacific peoples. Recently, however, they have recognized that fishing—tuna fishing in particular—holds the greatest potential for economic development and economic self-reliance to support their recently acquired political independence.

The economic significance of tuna as a resource to the island nations did not come to be fully recognized until the United Nations Convention of the Law of the Sea was adopted in early 1982. This Convention enabled countries bordering the sea to extend their territorial sea boundaries to 12 nautical miles and their exclusive economic zones (EEZs) to 200 nautical miles. The result is that South Pacific countries now control millions of square kilometers of ocean, including the tuna resources that have long been exploited mainly by the developed distant-water fishing nations, who have paid little or nothing to exploit them.

This new regime introduces factors that strain relations between the Forum Island Countries (FICs) and the distant-water fishing nations because outside fishermen naturally want to pay as little as possible, whereas the FICs want the very opposite. This potential for strained relations became evident at the time the Forum Fisheries Agency (FFA) was created, when it was finally decided that the agency's sole purpose would be to assist the forum countries to get the maximum benefit from their tuna resources. The agency's policies and their implementation are discussed from differing perspectives in this book.

However, it is one thing for the island nations to set a policy; it is another to achieve it. And though there is no denying that benefits have begun to accrue, it cannot yet be claimed that a fair return has been achieved. Indeed, there is still a long way to go. The situation is unlikely to change much in the near future because it requires negotiation, and nations in our region have little bargaining power relative to the major fishing nations, from which they receive substantial assistance in financing and promoting various regional and national development programs, including fisheries development. It is these same countries that have the technology to exploit the tuna resources of the Pacific region.

Despite the problems facing the island countries, there is one thing certain: the South Pacific countries are committed to working to achieve what they believe to be a fair return from their tuna resource. This commitment is the reason for the creation of the FFA and the Nauru Group, both of which have assisted the forum countries in cooperating more effectively against the bargaining power of the distant-water fishing nations. More recently these countries have shown their willingness to stand up for their own national interests, even at the cost of external opposition and strained relations with countries traditionally regarded as their friends. They have taken the first independent step that can make the next steps easier.

To the Pacific countries, the whole question of tuna is about economics, not ideology. They want—and are working for—economic security for their people. It is for this reason that they are developing locally based fishing industries and are continuing to struggle in the face of harsh economic conditions in the tuna industry. The experiences of some of these countries are related in this book. The point to note about the Pacific island states is their keen desire for mutually beneficial relationships with other countries, particularly the traditional friends with whom they have much in common. The relationship must, of course, be a balanced one, fair not only in appearance but in actual fact.

This book is the first on this subject ever to be published. It attempts to present a wide range of views on the many aspects of tuna fishing, with emphasis on the South Pacific region. It is appropriate to address this subject now, because tuna fishing is and will be important, not only for the economic development of the region but also for its implications for relations between the South Pacific countries and the distant-water fishing nations.

More important, however, the book will contribute to a wider understanding of the many perspectives on issues related to tuna fishing. Such understanding can enhance cooperative efforts in the orderly exploitation and management of the tuna resource for the benefit of our region and foster the future well-being of the Pacific. The authors are to be congratulated for their effort. I commend this publication to all who have interest in tuna fishing and in the economic well-being of Pacific peoples.

I. T. Tabai
Beretitenti
Republic of Kiribati
August 1985

Acknowledgments

This book brings together for the first time a collection of papers focusing on socioeconomic issues related to tuna fisheries in the Pacific islands region. A group of diverse professionals have contributed to the book, providing perspectives from industry, government, and the academy. Of course, not all contributors agree; their philosophies differ depending on whether they represent the interests of island countries, distant-water fishing nations, industry, government, or regional organizations. However, the compilation of a range of views and opinions under one cover is a healthy indication that various actors in the industry are both able and willing to engage in constructive dialog—dialog that can only serve the interests of all those involved in exploiting and managing the Pacific islands' tuna resources.

All contributors to the book participated enthusiastically, without remuneration, and in spite of heavy work commitments. I am indebted to them because this book would not have been possible without their support. Production of the book took longer than expected for a variety of reasons, not the least of them the vast geographic distribution of contributors.

I am also indebted to Charles W. Lepani, director of the East-West Center's Pacific Islands Development Program; Jeanne Hamasaki, former program officer; and Michael Hamnett, former research coordinator of the program—all of whom encouraged and facilitated the production of the book. Jane Aucoin, Titilia Barbour, Forrest Hooper, Lynette Tong, and Mary Yamashiro gave secretarial support. Edith Kleinjans edited the contributions, and Jacqueline D'Orazio and her staff managed production.

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David J. Doulman
Honolulu

March 1987

Editor's Introduction

The Pacific islands region is a large and diverse area of the western and central Pacific Ocean stretching from the Republic of Palau in the west to Pitcairn Island in the east. In this region are 14 independent or self-governing countries and 8 territories of France, New Zealand, the United Kingdom, and the United States. Except for Papua New Guinea, Solomon Islands, and Fiji, each of the countries and territories consists of a single small island or a group of sparsely distributed islands (Figure 1).

All these countries and territories are marked by high economic dependence. The situation of most of them is likely to worsen because (1) they have narrow economic bases and (2) their agricultural resources and land-based economic activities are limited. For these reasons their

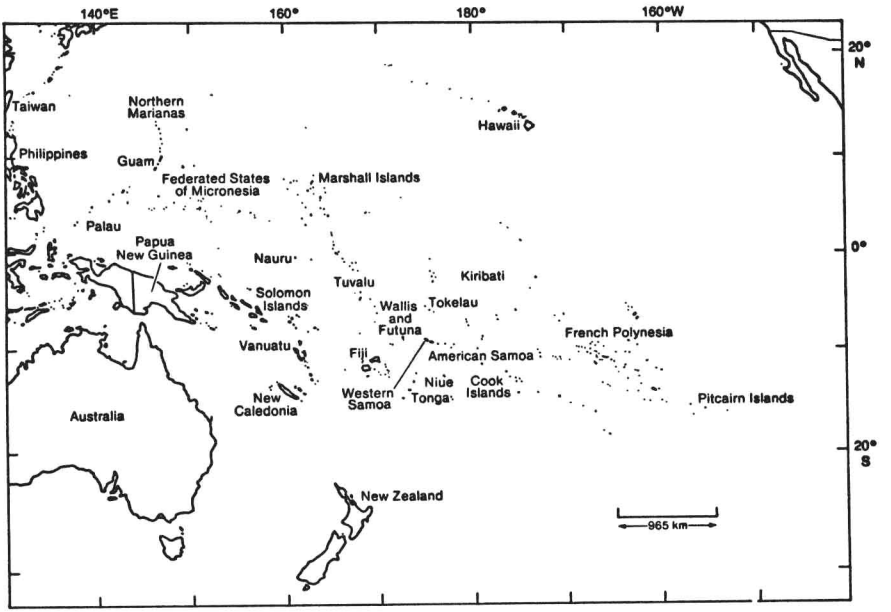

Figure 1. Pacific islands region

marine resources are central to the subsistence and culture of their peoples.

In Micronesian and Polynesian countries and territories a paucity of inshore fisheries has traditionally required fishermen to exploit pelagic resources, especially tuna, for their livelihood. This reliance continues. However, subsistence exploitation of tuna is small relative to the size of the resource and its exploitation by commercial fishing fleets. Doulman and Kearney (1986) estimate that subsistence catches of tuna in the region do not exceed 10,000 tonnes annually.

Tuna is the most abundant and most valuable commercial fisheries resource in the region. Although precise data on commercial catches are not available, estimates are that 650,000 tonnes of tuna with an ex-vessel market value of at least $700 million was harvested there by domestic fleets and the fleets of distant-water fishing nations (DWFNs) in 1984 (Doulman 1987a).

Japanese fishermen started exploiting the tuna resources of the region in the early 1900s. Since then commercial fisheries have developed and expanded. The world's leading DWFNs—Japan, Korea, Taiwan, and the United States—operate throughout the region. Their fleets fish in the exclusive economic zones (EEZs) of island countries and territories in return for payment of negotiated access fees and, in some cases, economic aid. These zones cover 30 million square kilometers of the ocean, and many of the region's best tuna fishing grounds lie within them.

Revenue received from DWFN fleets in return for access to fisheries is an important source of development finance for several countries. Depending on movements in tuna prices, DWFN fleets pay $15 million to $20 million annually. Access fee payments figure prominently in some government budgets; in Kiribati they account for about 25 percent of the government's annual expenditures (Doulman 1987b).

Many island countries and territories either have developed or aspire to develop commercial tuna industries; some have tuna-processing facilities. Such commercial undertakings have been established as joint ventures with Japanese or U.S. multinational corporations or as outright private investment undertakings. Some European investors have shown interest in the region's tuna industry, but their interest has not yet been translated into investment.

Pole-and-line, longline, and purse seine fleets are based or registered in 13 countries and territories in the Pacific islands. Each year these fleets harvest an estimated 140,000 to 160,000 tonnes of tuna (Doulman and Kearney 1986)—about 20 to 25 percent of the total tuna catch in the region. Catches by domestic fleets are landed at processing facilities in the region or consolidated at transshipment locations for ex-

port to processors outside the region. At present, tuna is transshipped at Guam, Tinian (Northern Marianas), Rabaul (Papua New Guinea), Tulagi (Solomon Islands), and Palikula (Vanuatu). Before 1982 Palau also served as a transshipment base. Several other island countries and territories are investigating the possibility of establishing shore-based transshipment facilities, primarily to service DWFN fleets operating in their waters.

Tuna landed in the Pacific islands is either canned or processed into *katsuobushi* (smoke-dried skipjack). *Katsuobushi* is processed in the Marshall Islands and Solomon Islands, then exported to Japan, where it is just a small proportion of the total market. *Katsuobushi* production is constrained by the size of the Japanese market (about 32,000 tonnes a year) and by the shortage of suitable timber for smoking the product, particularly in countries consisting of atolls.

There are tuna-canning facilities in American Samoa, Fiji, and Solomon Islands. The two canneries in American Samoa are among the world's largest, with a combined annual processing capacity of 155,000 tonnes. These canneries account for nearly 90 percent of the region's canning capacity. The canneries in Fiji and Solomon Islands can process 15,000 tonnes and 5,000 tonnes a year respectively. Hawaii's cannery, which operated until 1984, had an annual processing capacity of 35,000 tonnes. This cannery is scheduled to reopen in 1987, but on a significantly reduced scale. Solomon Islands is relocating and expanding its cannery. Several other island countries are planning to develop tuna-processing facilities.

The economies of three Pacific island countries depend heavily on their tuna industries (Doulman and Kearney 1986). Tuna processing is American Samoa's dominant industry. Processed tuna now accounts for about 90 percent of the value of American Samoa's exports, 30 to 40 percent of Solomons Islands' exports, and about 30 percent of Vanuatu's exports.

The politically independent countries in the region cooperate closely on fisheries matters through the South Pacific Forum Fisheries Agency (FFA). Since 1979 this cooperation has permitted them to present a united front in dealing with DWFNs and to secure a fairer share of the benefits flowing from the exploitation of their tuna resources. Hawaii and the U.S. territories in the Pacific also cooperate on fisheries matters through the Western Pacific Regional Fishery Management Council. However, the U.S. position on tuna has impeded the council's efforts to develop a management plan for tuna.

The extent of dependence on tuna in the Pacific islands is unmatched elsewhere. Pacific islanders depend on tuna for subsistence; island governments depend on revenue from DWFNs to support their development programs; the economies of several countries and terri-

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PART I. INTRODUCTION

1.
Tuna Fisheries Management in the Pacific Islands Region

Parzival Copes

INTRODUCTION

In fisheries management the textbook case is a single-species fishery on a stock confined to the waters of a single country, conducted by fishing units of a single gear type fully dedicated to that fishery.[1] The tuna fishery of the Pacific islands region meets none of these criteria of simplicity. The vessels in this fishery come from many countries, near and far. They pursue two major and several minor species of tuna across the maritime zones of the region's 22 states and other political divisions—a vast area of over 30 million square kilometers (Doulman 1986a). Moreover, these tuna stocks migrate far beyond the region across wide stretches of the high seas and the maritime zones of many countries. Vessels of at least three distinct gear types participate in the fishery. The circumstances under which the fishery for tuna is conducted in the region are complex, making effective management difficult to achieve.

Managing a highly migratory stock such as tuna requires consistent control over the fishery on that stock throughout its whole migration range. It calls for the cooperation of all the resource-adjacent nations (RANs) through whose maritime zones the fish migrate. Where the stock also passes through the international waters of the high seas, the cooperation of distant-water fishing nations (DWFNs) whose fleets fish there is also needed.

The RANs of the Pacific islands region include 14 small independent or self-governing states and 8 territories (Doulman 1986a). The former include the Cook Islands, the Federated States of Micronesia, Fiji, Kiribati, the Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Western Samoa.[2] Most of them are members of a regional organization, the South Pacific Forum (SPF); the others have observer status. The territories include three dependencies of France (French Polynesia, New Caledonia,

and Wallis and Futuna), three of the United States (American Samoa, Guam, and the Northern Marianas), and one each of Great Britain (Pitcairn Island) and New Zealand (Tokelau).

There are locally based tuna fleets in 11 of the 22 states and territories of this region (Doulman 1985). Their annual catch is in the range of 80,000 to 100,000 tonnes out of a total regional catch estimated at 630,000 tonnes in 1984. Thus the bulk of the catch is taken by the fleets of DWFNs. Japan and the United States take by far the biggest catches, but South Korea and Taiwan also take large harvests. Much smaller amounts are taken by a number of other countries, sometimes only on an occasional basis. The Forum Fisheries Agency (FFA), acting on behalf of SPF members, maintains a register of vessels permitted to fish in its members' zones. Apart from the four major DWFNs, the countries with registered vessels include the Cayman Islands, Honduras, Indonesia, Mexico, New Zealand, Panama, the Philippines, and the Soviet Union (Doulman 1986a, 8).

The tuna stocks of the Pacific islands region migrate into adjacent areas of the high seas, where DWFNs may fish without authorization. The number of additional DWFNs that might participate in the fishery on tuna stocks of the area could therefore be substantial, compounding the complexity and difficulty of managing the tuna stocks in the Pacific islands.

This paper explores in a general fashion the purposes, problems, possibilities, and prospects of managing international tuna fisheries in the Pacific islands region. After a discussion of the goals of management, a theoretical overview of the bioeconomic principles underlying fisheries management is presented, with emphasis on points of particular relevance to tuna management in the region. To accommodate a diverse readership, the theoretical presentation is kept as simple as possible. (Those interested in a more extensive analysis and fuller explanation may consult the references listed.) Later sections consider the implications of new concepts and rules in the Law of the Sea for international tuna management in the context of the Pacific islands region and analyze the practicalities of available management options and the international arrangements necessary for success.

GOALS OF FISHERIES MANAGEMENT

There is now broad recognition of the need for special arrangements for managing fish stocks that are not appropriate for most other resources, simply because most fish stocks are common property whereas most other resources are privately owned or controlled. A farm or forest is managed by the owner or leaseholder to maintain its productivity and yield a good economic return because of the owner's or lease-

holder's stake in it. But a fisherman who neither owns nor controls the stock he fishes has no incentive to maintain its productivity by limiting his harvest or investing in the stock's enhancement, because he cannot capture the benefits of such actions. Rival fishermen with equal access to the enhanced stock would simply increase their catches and reap most of the rewards. Because fish stocks are common property, they are easily exploited by harvesters competing for catches without regard for the impact on stock regeneration. In the long run this kind of exploitation is bound to depress the productivity of the stock and the economic returns from the catch.[3]

The pernicious results of unregulated fishing have increasingly led governments to act as surrogate owners by assuming responsibility for managing the resource. It is widely recognized that if the problem of common-property fisheries is overexploitation, the solution must be sought in limiting the number of fishing units and the effort they put out. Such a limitation of effort offers a two-sided advantage: it cuts the aggregate costs of fishing, and it reduces pressure on fish stocks so that they can be restored to yield larger catches and revenues. In the analytical terms of economics, limiting effort to an optimum level allows maximum net economic benefits to be extracted from the fishery (Copes 1972a). In particular, it allows for the regeneration of resource rents that are dissipated by the excessive fishing effort of an open-access fishery (Gordon 1954). The resource rents generated may be left with fishing enterprises to enhance their incomes; captured as taxes, fees, or royalties by governments to add to their public revenue; or shared by government and industry.

Over the past few decades several countries have developed sophisticated management regimes for domestic fish stocks, often achieving effective stock conservation. In many cases economic returns have also improved substantially. Still, much remains to be done in refining management techniques and overcoming political and social obstacles to obtain optimum results.

BIOLOGICALLY ORIENTED MANAGEMENT CONTROLS

Over the years a variety of fisheries management techniques have been put into practice. Initially, governments were concerned primarily with stock conservation; hence they drew their advice primarily from biologists. Conservation of a fish stock requires that losses from natural mortality and fishing mortality be counterbalanced by growth in the stock. For management purposes, a fish stock is usually considered to consist only of individual fish that have reached "fishable" size. Following