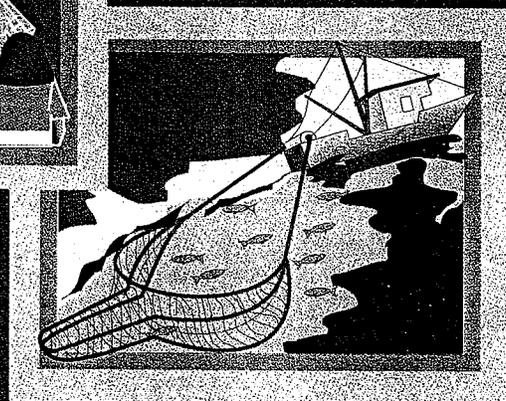
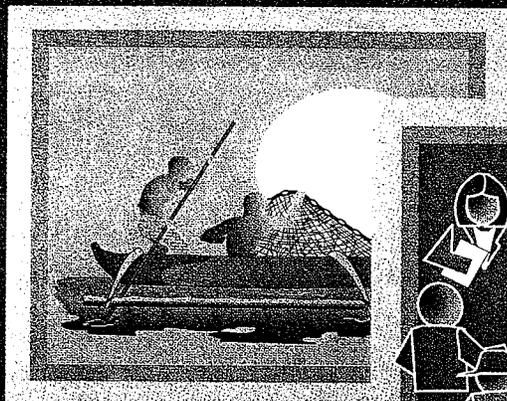
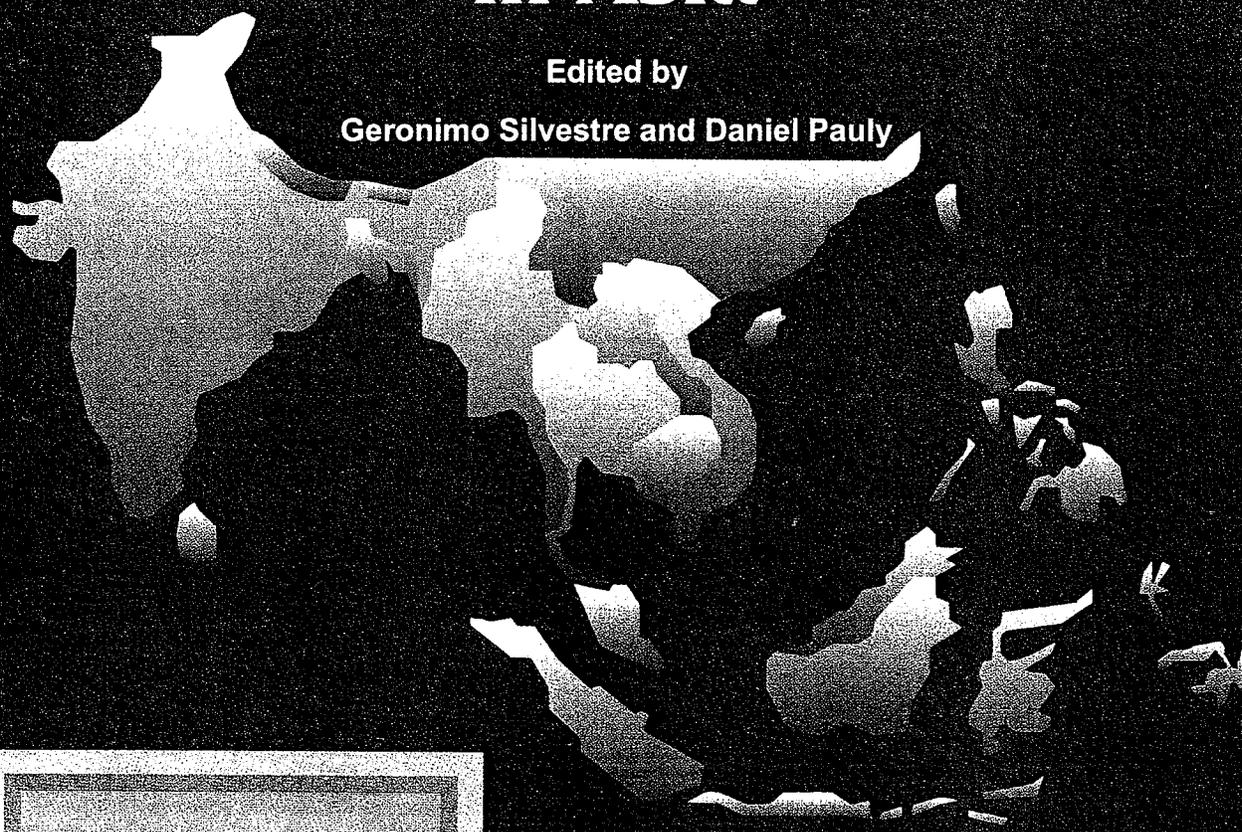


# Status and Management of Tropical Coastal Fisheries in Asia

Edited by

Geronimo Silvestre and Daniel Pauly



**ICLARM**  
International Center  
for Living Aquatic  
Resources Management

  
Asian Development Bank

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Edited by

**GERONIMO SILVESTRE**  
and  
**DANIEL PAULY**

1997

Printed in Manila, Philippines.

Published by the Asian Development Bank (ADB), 6 ADB Avenue, Mandaluyong City,  
and the International Center for Living Aquatic Resources Management, MCPO Box 2631,  
0718 Makati City, Philippines.

Silvestre, G.T. and D. Pauly, Editors. 1997. Status and management  
of tropical coastal fisheries in Asia. ICLARM Conf. Proc. 53, 208 p.

Technical editorial support: Len R. Garces and Rowena Andrea V. Santos  
Copyediting: Danny B. Abacahin, Rita Kapadia and Marie Sol M. Sadorra  
Proofreading: Kristine F. Santos, Rita Kapadia and Len R. Garces  
Layout: Albert B. Contemprate  
Cover concept: Geronimo Silvestre, Len R. Garces and Daniel Pauly  
Cover design: Alan Siegfrid C. Esquillon  
Artwork: Roberto N. Cada, Albert B. Contemprate and Alan Siegfrid C. Esquillon  
Indexing: Kristine F. Santos, Francisco Torres, Jr. and Ma. Graciela R. Balleras

Cover: Design emphasizes the duality of coastal fisheries in South and Southeast Asia.  
The need for management planning through participatory consultation among stakeholders  
is also emphasized in resolving the conflict between small- and large-scale fisheries and  
attaining sustainable exploitation of fisheries resources.

ISSN 0115-4435  
ISBN 971-8709-02-9

ICLARM Contribution No. 1398

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**ASIAN DEVELOPMENT BANK  
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MCPO Box 2631, 0718 Makati City, Philippines**

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## Preface

Coastal fisheries are an important component of the agricultural sector and rural economy of developing countries of South and Southeast Asia. In 1994, coastal fisheries employed roughly 8 million fishers, and contributed the bulk of the 13.3 million t of marine landings and US\$9 billion of fishery exports from these countries. Fish comprises an important part of the diet, contributing as much as 70% of the animal protein intake in many coastal areas. Many of the coastal fisheries, however, are impacted by a number of issues, such as overfishing and habitat degradation, with adverse consequences on fishing incomes, fish supply to consumers and living conditions in coastal communities. Moreover, competition among small and large-scale fishers in shallow fishing grounds has intensified resource depletion and increased social conflicts. Several major fishing grounds in the region, such as Manila Bay, Gulf of Thailand, Java Sea, are heavily fished, with the abundance of fish stocks as low as 10-15% of their unexploited levels.

In view of these problems and their impact on coastal communities, many developing countries in the region are placing a greater emphasis on improving the management of their coastal fisheries. A number of policies and action programs for dealing with these issues have been established. The question is whether their magnitude and comprehensiveness are sufficient to reverse the numerous interrelated problems, and whether they have considered the available resources and related information. Many surveys of coastal fishery resources were undertaken in these areas from the 1960s to the 1980s to help guide fisheries development and management efforts. Much of the information in these surveys remains underutilized, having been only superficially analyzed. No account was taken of the diversity of fish stocks and its effects on the yields which the resources can sustain. These surveys can potentially provide an independent statistical baseline of resource conditions, as well as directions and strategies for improved management.

The Workshop on 'Sustainable Exploitation of Tropical Coastal Fish Stocks in Asia' was organized by ICLARM, with funding from the Asian Development Bank (ADB) to help assess the prevailing situation and identify follow-up actions for improved management of coastal fisheries in South and Southeast Asia. The Workshop was conducted in Manila, Philippines, on 2-5 July 1996. It aimed to:

1. examine the status of coastal fish stocks and fisheries in developing South and Southeast Asian countries and directions for their improved management;
2. review previous fish stock surveys and their potential for retrospective analyses in support of management efforts;
3. elaborate relevant database guidelines in support of such retrospective analyses; and
4. explore follow-up action and support activities for regional collaboration in coastal fisheries management.

These proceedings document the papers presented at the Workshop and include a synopsis of the Workshop's main results and recommendations.

The Workshop program (see Appendix I) was divided into (four) sessions designed to include inputs to five interrelated working group discussions: (1) Management Issues, (2) Management Strategies/Actions, (3) Scope for Regional Collaborative Efforts, (4) Trawl Database Guidelines/Prototype, and (5) Indicative Planning for Follow-up Regional Collaboration. A total of 27 resource persons (see Appendix II) actively participated in the workshop sessions and working group discussions. The overview paper by the editors and the seven country papers (Khan et al. - Bangladesh; Priyono and Sumiono - Indonesia; Abu Talib and Alias - Malaysia; Barut et al. - Philippines; Maldeniya - Sri Lanka; Eiamsa-ard and Amornchairojkul - Thailand; and Thuoc and Long - Vietnam) give situational updates and provided key inputs for the first two working group discussions on management issues and strategies/actions. The contributions by Martosubroto and by Mansor and Mohd-Tauppek provided important perspectives of issues and strategies/actions by outlining the activities of two important international fisheries organizations, FAO and SEAFDEC, respectively, involved in this region. All the papers outlined ongoing efforts and activities and, hence, provided a basis for discussions on regional collaboration efforts in support of coastal fisheries management.

The paper by Gayanilo et al. outlines a trawl survey database prototype - a key element required to assemble, standardize and analyze the large number of extant but underutilized surveys. The contribution

by McManus on community structure analyses illustrates how potential analyses can be conducted on existing trawl surveys, once these are entered in a database, to provide insights and options for improved management. These two papers, together with the information on trawl surveys summarized in Appendix III, were the main inputs for the working group discussion on trawl database guidelines/prototype. The paper by Gayanilo et al. incorporates the revisions and suggestions resulting from the deliberations of the working group. It also includes the insights gained by Mr. Tøre Strømme, the leader of the Norwegian project whose vessel, the *Dr. Fridtjof Nansen*, has surveyed the waters of the majority of countries included in this Workshop and many more in Africa and south and central America.

A synopsis of the main results and recommendations of the Workshop is given by Silvestre and Pauly. It includes the outcome of the working group discussion on indicative planning for follow-up regional collaboration. The Workshop points to the need for action on a broad range of issues at the local, national and international levels. Consensus was achieved on a number of interventions which can assist these countries in the management of coastal fisheries. Of these, catalytic elements (consisting of training, research and planning activities) have been packaged into a proposal for expanded regional technical assistance for possible funding by ADB.

The Workshop and the proceedings presented here would not have been possible without the assistance of various agencies and colleagues. We particularly wish to acknowledge the funding support provided by ADB. The assistance of BFAR and PCAMRD during the conduct of the Workshop is also gratefully acknowledged. Dr. M.J. Williams, Dr. M.V. Gupta, Dr. M. Mannan, Mr. W.D. Zhou and Dr. T. Gloerfelt-Tarp gave valuable advice and assistance during the preparation and conduct of the Workshop and the completion of the proceedings. Mr. P.V. Manese, Ms. R. Funk and Ms. L. Arenas provided administrative support. Mr. L. Garces, Ms. R.A.V. Santos, Mr. R. Pabiling, Mr. D. Bonga and Ms. K.F. Santos provided technical support during the Workshop and the preparation of the proceedings. Thanks are also due, for editorial assistance, to Ms. M.S.M. Sadorra, Ms. R. Kapadia, Mr. D. Abacahin, Mr. D. Satumba, Mr. A.B. Contemprate, Mr. R.N. Cada and Mr. A.S. Esquillon.

**The Editors**