The Values of Philippine Coastal Resources:
Why Protection and Management are Critical

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Coastal Resource Management Project
of the
Department of Environment and Natural Resources
supported by the
United States Agency for International Development

Cebu City, Philippines

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1998

Printed in Cebu City, Philippines

Citation:
White, A.T. and A. Cruz-Trinidad. 1998. The Values of Philippine Coastal Resources: Why Protection and Management are Critical. Coastal Resource Management Project, Cebu City, Philippines, 96 p.

This publication was made possible through support provided by the United States Agency for International Development (USAID) under the terms and conditions of Contract No. AID-492-0444-C-00-60028-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the USAID. This publication may be reproduced or quoted in other publications as long as proper reference is made to the source.

Captions:
Front cover: Sarangani Bay (left); Diverse coral reef, Tubbataha Reef, Sulu Sea (top right); Surgeon fish, Bastera Reef, Sulu Sea (bottom right). Back cover: Old mangrove trees, Sarangani Bay (left), Fusilier fish, Tubbataha Reef, Sulu Sea (right). Photos by: A.T. White

CRMP Document No. 37-CRM/1998

ISBN 971-91925-3-4

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BFAR – Bureau of Fisheries and Aquatic Resources
EWDS – environmental waste disposal services
GDP – gross domestic product
GVA – gross value added
gt – gross tons
ha – hectare
hp – horsepower
ICM – integrated coastal management
kg – kilogram(s)
km – kilometer(s)
km^2 – square kilometer(s)
m – meter(s)
m^3 – cubic meter(s)
MER – maximum economic rent
MEY – maximum economic yield
MSY – maximum sustainable yield
OAE – open-access equilibrium
OAY – open-access yield
POPs – persistent organic pollutants
t – tons (1,000 kg)
TEV – total economic value
WTP – willingness-to-pay

Acknowledgments

The compilation of this book depended on much information derived from a variety of sources in and outside of the Philippines. Several resource economists and others who deserve special mention for their research and ideas include: Herman Cesar, John Dixon and Louise Fallon-Scura of the World Bank; Marian de los Angeles, Jose Padilla and Rina Rosales of the Environment and Natural Resources Accounting Project, Philippines; and Tijen Arin of Duke University. Several natural scientists who have provided key information in recent years include: Angel Alcala, Eduardo Gomez, Perry Aliño, John McManus, Daniel Pauly, Garry Russ, Gregor Hodgson and Peter Vogt. Tito Rodriquez is thanked for his research on the earliest stage of this book.

Those associated with the Coastal Resource Management Project who have contributed to this book include: Catherine A. Courtney, Benjamin Francisco, Tom Bayer, Dolores Ariadne D. Diamante-Fabunan and Leo Pura. Review comments by Marian de los Angeles; Mahfuz Ahmed of the International Center for Living Aquatic Resources Management; Catherine Courtney and Tom Bayer; and Dianne Antoinette Parras of the University of Miami School of Marine Affairs have provided helpful improvements. We are also grateful to Rose Yabut of the International Center for Living Aquatic Resources Management Library for helping us with the references. Copy editing was done by Leticia Dizon and Tom Bayer and design and layout were done by Melvin Teoxon and Ysolde Collantes.

Alan T. White
Annabelle Cruz-Trinidad

Foreword

True Filipinos love the ocean.

For an archipelagic country like the Philippines, with a coastline of 18,000 km, this statement should be non-debatable. With an exclusive economic zone (EEZ) of 2,200,000 km^2, much of the country's territory and much of its development potential lie in its coastal and marine waters.

Yet the importance and potential of our coastal and marine ecosystem have been unappreciated. Their conservation has been neglected. As a result, we find the phenomenon of poverty amidst wealth in the cities, municipalities and barangays of our coastal areas. In a very short time we could find ourselves in a situation of increasing poverty as the vicious cycle of poverty and environmental degradation proceeds at an alarming pace.

It is thus a great relief that the Coastal Resource Management Project (CRMP), a technical assistance project of the United States government to the Philippines and implemented by the Department of Environment and Natural Resources (DENR) is addressing coastal management issues in the Philippines. Supported by the project are two leaders of the conservation movement who bring understanding to the importance and potential of our coastal and marine waters to the larger public. The difference of their chosen professions, Dr. Alan White being a marine scientist and geographer and Annabelle Cruz-Trinidad being an economist, further strengthens their effort as the elements of science and of institutions are brought together as they should.

What they have produced is a book that goes beyond the biology of coral reefs, mangroves and fisheries. What we finally get is truly the answer to the question, "Why are protection and management of the coastal and marine resources critical?" For those who need to be convinced as well as those who will do the convincing, this is the book for them.

As always, when we see good work and good people, we say "may their tribe increase!" Indeed in a short time, it is expected that their work will produce the critical mass of Filipinos that are not only committed but also well-informed advocates of marine conservation. The political will so necessary to shift from today's destructive exploitation to one of sustainable development would then be generated.

There is hope yet for our coastal and marine resources-but this ultimately depends on all of us.

Read this book, *love the ocean, and be truly Filipino*.

DELFIN J. GANAPIN, JR., Ph.D.
Philippine Federation for
Environmental Concerns (PFEC)

Preface

This book has many uses in assisting the way we value our natural resources. It can serve as a reference for finding and citing information required to make informed decisions about when and how to protect and manage coastal resources in the Philippines and elsewhere. It can be used to convince ourselves and others about the need to plan and manage for the future. This book summarizes common valuation methods used and when they may be used appropriately. It describes in detail the values of coral reefs, mangroves, fisheries and water quality to Philippine society. Integrated coastal management and its associated costs and benefits are described as a means of solving some of the protection and management problems facing the Philippines and its tropical coastal resources. Other objectives are to:

- Provide information on the economic and other values of coastal habitats and ecosystems in terms of direct production, loss of earnings from destruction and values created by tourism, research and education uses as well as the mere existence of a natural resource;

- Show how the stream of benefits from a natural coastal ecosystem is basically free to people provided that ecological parameters are honored;

- Show what in aggregate is lost from destruction of these valuable ecosystems;

- Give an estimate of what is gained from management interventions such as marine reserves and sanctuaries which result in the stabilization of an ecosystem and the potential increase in direct production and other uses;

- Provide information on the cost of management interventions and possible sources of support; and

- Support policy makers in the often difficult decision to disapprove or disallow more intensive levels of exploitation of fisheries and other important uses.

This book is a reference to assist in managing our coastal resources. Relevant information can be accessed on resource valuation methods (Chapter 1), the valuation of uses of coral reefs (Chapter 2), the valuation of mangrove forests and habitats (Chapter 3), the valuation of fisheries to the Philippines (Chapter 4) and the valuation of water quality (Chapter 5). The economic justification for applying integrated forms of management to the problem of coastal degradation is presented in Chapter 6.

This book can become a creative tool in better understanding the natural environment upon which we depend. It is ironic that in a world increasingly controlled by a monetary economy of global scale, we generally do not know the real monetary worth of the basic natural resources upon which our global and local economies depend. This book will help remedy this problem by assisting us to value our immediate sources of subsistence and putting them in perspective with various options for development.