

Preface

Having been brought more closely to the attention of researchers worldwide by the International Year of the Reef (1997), the issue of conservation of coral reefs has intensified. Stresses on coral reefs created by increased development and population adjacent to the coast call for relevant authorities to take immediate action to prevent additional irrecoverable damage occurring worldwide. As of 2001 it was estimated that 11 per cent of all coral reefs had been totally destroyed or damaged beyond recovery, another 16 per cent had been severely damaged in 1998 by coral bleaching related to climate change.¹

Since the workshop that formed the basis of these proceedings, the Climate Prediction Center of the United States has reported that warmer than normal sea surface and subsurface temperatures were observed throughout most of the equatorial Pacific during April 2002. Sea surface temperature anomalies were up to 2°C warmer than average in the region between the Galapagos Islands and the South American coast, and more than 1°C warmer than average immediately to the west of 180°W. The Climate Prediction Center also forecast a slow evolution towards El Niño conditions throughout the remainder of 2002.²

The Australian Bureau of Meteorology, in a comparison study, reported that seven out of 12 reputable ocean or coupled ocean/atmosphere forecast models predicted “warm” temperatures from April to September 2002.³ Such climate change would result in more coral reefs being destroyed. Furthermore, Talbot and Wilkinson (2001) concluded that, largely as a result of locally based rather than natural global stresses, a further 30 per cent of the world’s reefs will be seriously damaged in the next 20 to 40 years.

Papers from the WorldFish workshop published in this report suggest that reef damage caused by human impacts needs to be addressed at local, national, regional and global levels. Coral reefs can be sustainably managed if reef uses are optimized and good policies are in place.

This volume is the outcome of the “International Consultative Workshop for Economic Valuation and Policy Priorities for Sustainable Management of Coral Reefs” held at the WorldFish Center’s Headquarters, Penang, Malaysia, 8-10 December 2001. The overall goal of the workshop was to identify future economic and policy research directions relevant to the sustainable management of coral reefs. The directions were to be identified through review and discussion of the effectiveness of policy instruments; analysis of past research findings; and analysis of the interdependency of community livelihood, coral reefs and their resources. For more effective policy instruments to be introduced by any government, we believe that economic valuation and cost benefit analysis are important processes. They will provide information on the various values of coral reefs, which could allow decision-makers to devise policies that optimize the services and functions provided by the reef ecosystems and their capacity to support the livelihood of coastal communities.

The workshop was the final activity of the Valuation and Policy Analysis for Sustainable Management of Coral Reefs project sponsored by the Center’s donors and the Swedish International Development Cooperation Agency (Sida), with additional support from the International Coral Reef Action Network (ICRAN), and support for selected participants from Southeast Asia by the Economy and Environment Program for Southeast Asia (EEPSEA) and the Australian Center for International Agricultural Research (ACIAR). A total of 48 participants from 15 countries located in Southeast and East Asia, the Caribbean, East Africa and the South Pacific Regional Seas attended the workshop. Seven keynote papers and 19 research papers were presented at the workshop.

¹ Talbot, F. and Wilkinson, C. 2001. Coral reefs, mangroves and sea grasses: A sourcebook for managers, Australian Institute of Marine Science, Townsville.

² National Oceanic and Atmosphere Administration (NOAA), El Niño/Southern Oscillation (ENSO) Diagnostic Discussion. Press Release, May 9, 2002.

³ National Climate Data Center (NCDC) classifies the predicted NINO3 temperature anomaly (or the mean of a suite of forecasts known as an ensemble) as “warm” if it exceeds 0.8°C, which is about one standard deviation above average.

These proceedings are organized into four sections and three Appendices.

The Introduction – the first section – gives a brief account of current issues and problems in coral reef management.

The second section focuses on the economic valuation and socioeconomics of coral reefs and consists of two parts. Part A is made up of four keynote papers which provide an overview of the theory and practice of economic valuation and the socioeconomics of coral reefs; the role of economic valuation in coral reef management over the next decade; the use of modeling as a tool to estimate the economic values of coral reefs; and the need for and potential role of economic valuation in relation to coral reef use and management in the Pacific region. Part B of this section consists of four case studies relating to Malaysia, Tanzania (Zanzibar), Thailand, and Vietnam.

Section 3 relates to policy instruments and management techniques for coral reefs and marine resources – this section has two parts. Part A consists of three papers addressing the effectiveness of various policy instruments for coral reefs and fisheries management. Part B consists of case studies of policy implementation, climate change adaptation strategies, and coral reef management in the small and low-lying states of the Caribbean, China, Indonesia and Jamaica.

The final section of these proceedings consists of outcomes from the working group discussions. It sets out participants' recommendations on the preferable directions for future research. Recommendations are grouped into research relating to the economic valuation of coral reefs, coral reef policy analysis, and community participation in coral reef management.

The Appendices provide a list of workshop participants and their contact details, the workshop program, and an explanation of abbreviations and acronyms used.

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