

Preface

Humankind continues to be challenged by the negative effects on well-being of economic scarcity caused by imperfections in the operation of economic (and political) systems. These imperfections often add needlessly to the extent of economic scarcity experienced by people, or result in attainable social goals not being realized. Sometimes these shortcomings can be eliminated (or reduced significantly) by reforming systems for organizing society's use of its limited available resources. The main mission of economics is to study and report on such issues. In accordance with this point of view, the prime purpose of this book is to examine how the limited availability of natural resources and the quality of existing environments restrict the satisfaction of human wants. Alterations in these factors with the passage of time is also considered as an influence on economic scarcity. Furthermore, this book identifies the way in which social systems for the management of natural resources and environments can fail to minimize economic scarcity and suggests ways in which the operation of such systems can be altered to ensure that human wants are more fully satisfied.

A feature of this book is that it draws on a variety of economic theories and perceptions of the nature of economic activity and its consequences to provide comprehensive analysis of both long-term concerns and modern issues requiring knowledge about natural resource economics and environmental economics. This ensures that the economic problems are analyzed from several different points of view. It is

hoped that this will ensure better comprehension of the resource and environmental issues that confront us.

Another distinctive attribute of this book (apart from its stress on the variety of available economic perspectives for analyzing problems in natural resource and environmental economics) is its emphasis on the dynamic nature of economic thought. New theories and perceptions evolve and sometimes earlier ones fall by the wayside. It is important, in my view, for students to realize this.

In presenting the material in this book, I have focused on content and have tried to avoid formalism while at the same time, pointing out the limitations of our knowledge. A list of concepts (keywords) is given towards the end of each chapter, a series of questions follow which should help students improve their comprehension of the material in the chapter, and also possible readings are identified.

Part I of the book expands my notes on Environmental and Natural Resource Economics prepared for lectures given at the Institute of Natural Resources at Humboldt University of Berlin in 2007. Contacts made during my visit to this Institute helped to shape the approach taken in this book; for example, it resulted in increased emphasis on institutional economics as an important influence on the use of natural resources. Indirectly, contacts and discussions with Professor Volker Beckmann, Professor Konrad Hagedorn and Dr. Martina Padmanabhan (all of whom have a particular interest in institutional economics) convinced me that greater attention should be paid to institutional economics in studying issues in resource and environmental economics.

This view was reinforced when I visited the Department of Agricultural Economics at Gent University of Belgium in the same year and gave lectures there at the invitation of Professor Guido Van Huylenbroeck. Chapters 8 and 9 of this book draw on the notes I prepared for these lectures and deal with agriculture and the environment and water management, respectively. The development of Chapter 8 also benefited from a guest lecture which I gave at the College of Life and Environmental Sciences of the Central University of Nationalities in Beijing in 2008 at the invitation of Professor Dayuan Xue. The portion

of Chapter 10 (Biodiversity of Conservation) that deals with the possible impact of genetically modified organisms and genetic diversity benefited from my attendance at an international workshop held in Beijing in 2008 to consider biosafety and GMOs. This workshop was organized by Professor Dayuan Xue and financed by GTZ (Germany) and TWN (the Third World Network), which has its headquarters in Singapore.

Chapter 13 on health and environmental economics draws on my notes for a lecture given to students at the University of Mauritius in 2006. I wish to thank the students who participated in this class for their enthusiastic feedback. The topic of environmental health has been neglected in most textbooks on environmental economics even though it has major economic consequences.

I have received feedback on draft chapters of this book from many individuals. I wish to thank them for the time they have spent in doing this and for their suggestions, but, of course, the usual caveat applies. Those who have helped in this way include Dr. Colin Hunt (Visiting Fellow in Economics at The University of Queensland), Dr Zhiyong Hong (Senior Epidemiologist, Public Health Agency of Canada), Professor Xufu Zhao (Agricultural Economist, Wuhan University of Science and Engineering and Visiting Fellow in Economics, The University of Queensland), Hemanath Swarna Nantha (PhD Scholar, The University of Queensland) Professor John Gowdy (Rensselaer Polytechnic Institute, Troy, New York), Professor K. Ninan (Professor of Ecological Economics, Institute for Social and Economic Change, Bangalore, India), Professor John Quiggin (ARC Federation Fellow, The University of Queensland), Professor Rohan Pitchford (ARC Professorial Fellow, The University of Queensland) and Dr. Dale Squires (South West Fisheries Science Center, NOAA Fisheries Service, California and Visiting Professor, California State University, San Diego). I am also grateful to Professor Darwin C. Hall (Professor of Economics and Co-director of Environmental Science and Policy, California State University, Long Beach) and Professor Jane V. Hall (Professor of Economics and Co-director of the Institute of Economics and Environmental Studies, California State Uni-

versity, Fullerton) for their input. I would also like to thank Dr. Peter Earl (School of Economics, The University of Queensland) for his suggestions which were relevant to Chapter 13.

I was delighted when World Scientific invited me to prepare a manuscript on natural resource economics and encouraged me to expand my above mentioned lecture notes for this purpose. The preparation of the manuscript took longer than I anticipated and I wish to thank the staff at World Scientific for their patience and support. Furthermore, thanks are due to Evelyn Smart for preparing the manuscript in a presentable manner for the publishers, also to Zeeshan Rahman for assisting me with reference material and to the School of Economics, The University of Queensland for the use of its facilities. Lastly, I would like to thank my wife, Mariel, for her continuing support.

In the 1970s, during my visits to York University in the UK, I was fortunate to meet late David Pearce on a few occasions. The first occasion was when he was still located at the University of Aberdeen. He invited me to give a seminar there. His enthusiasm for environmental economics (at a time when the subject was not yet popular) was an inspiration to me to continue to develop my interest in issues involving environmental economics and natural resource economics. This book is a product of this continuing interest. Feedback on its context is welcome.

Clem Tisdell