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978-0-521-87593-6 - Globalization: Effects on Fisheries Resources

Edited by William W. Taylor, Michael G. Schechter and Lois G. Wolfson

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Globalization: Effects on Fisheries Resources

Globalization is a multidimensional issue, and its impacts on world resources cross and integrate environmental, economic, political, and cultural boundaries. Over the last few decades, the push towards globalization has brought a new dimension in which managers of fisheries and water resources will need to operate, both at the local and global level of governance. In order to address effectively the future sustainability of these resources, it is critical to understand the driving factors of globalization and their effect on fisheries ecosystems and the people who depend on these resources for their cultural and societal well-being. This book discusses the social and political changes affecting fisheries, the changes to ecological processes due to direct and indirect impacts of globalization, the changing nature of the goods and services that fisheries ecosystems are able to provide, and the resultant changes in markets and economic assessment of our fishery resources.

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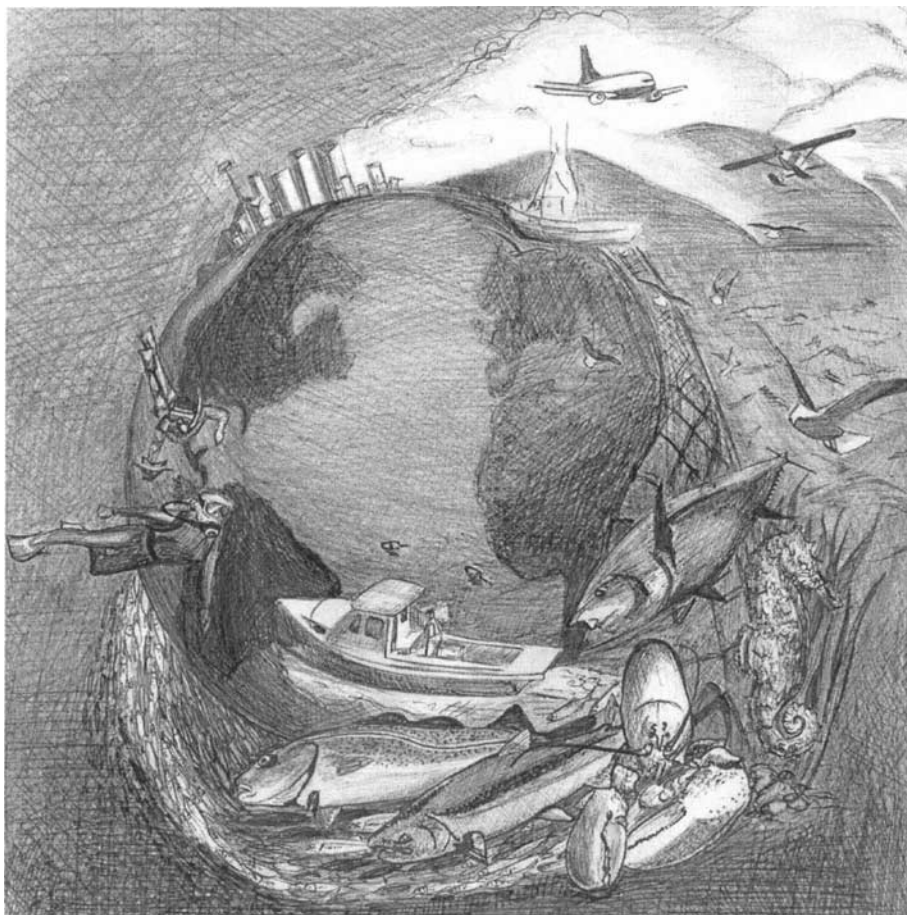
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Drawing by Katrina Mueller, Michigan State University.

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Globalization:

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Resources

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Foreword

Globalization is an increasingly important driving force that connects various corners of the world. Although the phenomenon of globalization (worldwide economic, cultural, political, and technological linkages) is not new, the magnitude and speed of today's globalization are unprecedented. Since the latter part of the twentieth century, consumption of natural resources in distant locations has created an accelerating demand on local resources. The modern era of globalization has profoundly affected fisheries resources, one of the most important sources of protein for humans, in many ways. Numerous fisheries scientists, policy-makers, managers, producers, and consumers are deeply concerned about the impact of globalization on future fisheries from local to global levels.

This timely book fills an important void by including insightful and comprehensive papers from eminent scholars documenting the intricate relationships between globalization and fisheries. By elegantly integrating theory and case studies, this book offers a clear overview and detailed analyses of the socioeconomic and ecological consequences of globalization. The authors also critically analyze relevant governance and multilevel management systems, and provide fresh perspectives on ethical and socioeconomic dimensions of globalization in the context of fisheries management.

As the authors vividly illustrate, globalization is a double-edged sword. It threatens fisheries by reducing aquatic ecosystem productivity and diminishing fish stocks. Despite the use of more efficient technologies (e.g., vessels and fishing gear) to increase fish production, global capture fisheries have been decreasing rapidly in the past several decades. Furthermore, international trade of fish products drastically increases waterborne diseases, poses great health challenges to aquatic animals, introduces numerous invasive species, displaces local

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communities, threatens small-scale fishers, and increases risks to food security. On the other hand, globalization can produce positive outcomes through facilitating transfer of remediation techniques for aquatic ecosystems and vulnerable fish stocks, capital transactions, and sharing research and management information. For instance, many hail aquaculture as an alternative to capture fisheries, as its production is more controllable and can reduce pressure on wild fish stocks. However, aquaculture can also pollute aquatic ecosystems, destroy habitat of wild fish stocks, release exotic species, spread diseases, raise concerns about potential risks of transgenic fish, and compromise the livelihood of people who have depended on wild fish stocks for generations. Thus, the effects of globalization are sometimes ambiguous and require more extensive and intensive research.

Sustainable fisheries require integrating ethics and ecological responsibility of producers and consumers into decision-making processes and management practices. More innovative technical measures (e.g., eco-labeling and Web-based relational databases) are needed for consumers to choose ecologically sustainable fish products and shape fish markets. As the authors have forcefully argued, new ways of thinking, fair and equitable trade, more effective government policy, coordinated management across juridical boundaries, strictly enforced regulations, frequent monitoring, internalizing environmental costs, eliminating perverse subsidies, and multilevel governance for global fish stocks are also critical to steer fisheries into a sustainable future.

The impact of this book will reach far beyond fisheries. Although the book focuses on the effects on globalization on fisheries, its interdisciplinary approach and remarkable insights have important implications for sustainable management of other common resources (e.g., wildlife, forests) and the environment in the new age of globalization.

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Preface

While the word globalization has been extensively used in recent times, the processes of exchanging information, goods, and culture between people and nations have been occurring since the dawn of human existence. Globalization, as defined by Held and McGrew¹ refers to “the expanding scale, growing magnitude, speeding up and deepening impact of interregional flows and patterns of social interaction . . . [as well as] to a shift or transformation in the scale of human social organization that links regions and continents.” What is novel about globalization today is the accelerating rate at which these exchanges are occurring. All segments of society and all societies are experiencing the impacts of globalization with the effects being viewed either as positive or negative depending on the value systems used to evaluate them.

The world’s fisheries resources and fisheries-dependent communities have long been impacted by globalization. There is, however, a significant deficit in analyzing and understanding the influences of globalization acting on these systems. These analyses would allow for insightful policy reform needed to ensure the sustainability of these coupled human and natural resources systems. Our lack of such knowledge and policy integration have been clearly demonstrated by the collapse of a number of socially and economically important fisheries over the past several decades. This deficit in our understanding, however, is beginning to change as fisheries policy-makers and managers are realizing that globalization is impacting fisheries in numerous

¹ Held, David and Anthony McGrew. 2000. The great debate: an introduction. In *The Global Transformations Reader: An Introduction to the Globalization Debate*, ed. David Held and Anthony McGrew. Cambridge, UK: Polity Press, pp. 3–4.

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ways at all levels of governance, and in view of this are taking action toward understanding and ameliorating the impacts of globalization on these resources.

Both human and fish populations have benefited from advances in communications, transportation, and governance systems due to globalization. Many of the changes arising from these advances have positively impacted our abilities to locate freshwater and marine fish species, whether for food, recreational fishing, or ecosystem restoration purposes. Additionally, these changes have enhanced our abilities to harvest, process, and transport fish and fish products, thereby greatly improving the quality and diversity of fish products available to humans throughout the world. With the technological improvements spurred by globalization, we have also improved our ability to raise fish in highly managed aquaculture operations thus permitting food security to be realized in many regions of the world. Lastly, globalization has facilitated our understanding of the entire fisheries supply chain, from its productivity to its marketing and consumption. This knowledge is facilitating our examination and management of fisheries in a holistic ecosystem-based approach, as well as incorporating both the biological and social factors within our governance decisions and their implementations.

The advances and benefits that are associated with globalization and fisheries resources have not been without controversy, and this resounds throughout the book. Some of the disputes that occur among and within nations include: who has rights to a fishery, an increasingly contentious issue as fishing nations are harvesting distant stocks that were formerly fished by locally based communities; loss of genetic diversity of fish stocks resulting from aquaculture escapees and inappropriate stocking protocols; habitat degradation and pollution related to our alterations of both aquatic and terrestrial ecosystems; and homogenization of cultures which, among many aspects, can threaten the existence of traditional fishing cultures. Effectively addressing these “new” challenges in fisheries management has created the need for a more agile governance approach of local and transboundary fisheries. Fortunately, globalization also provides us with the necessary tools to move towards developing approaches that can better solve these emerging challenges and should ultimately result in improved conditions for fish and their aquatic ecosystems. For instance, the ability to access expertise from across the world provides practitioners with better knowledge on, as well as possible solutions to, perplexing fisheries problems.

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The path to successfully managing globally influenced fisheries resources is not easy, as is clearly illustrated in numerous chapters in this book. We believe that a key to facilitating the sustainability of our fish and aquatic resources in the future will depend on having an informed public that are cognizant of the impacts that their desires and demands are having on local as well as distant fishing communities and fisheries ecosystems. Thus, much like our ability to share information that improves the health of humans throughout the world, such exchanges and public viewing of the impact of globalization on our fisheries resources are needed to assure that more sustainable fisheries policies and practices evolve in the future. As we learn from each other we will hopefully develop culturally sensitive best management practices for sustainable fisheries. It is equally important that fisheries policy-makers and professionals understand the good, the bad, and the ugly of globalization agents acting on local communities, the economies involved, and the environmental factors of concern. Such understanding would ensure that we meet the challenges and realize the opportunities put forth by globalization of our fisheries and their ecosystems. Knowledge is power, and we hope that the sharing of our experiences on a large number of fisheries will facilitate the process of more sustainable use and management of the world's magnificent fisheries.

It was for these reasons that we chose to host a symposium at an annual meeting of the American Fisheries Society which attempted to depict the impact of globalization on coupled human and fisheries resources systems. We assembled a collection of case studies that provide guidance for designing ecologically and socially sustainable systems in the face of accelerating globalization. This book provides such an overview, and it is our hope that this information will enable an attentive public, fisheries professionals, and policy-makers to make better decisions in regard to the management of local and global fisheries in the years to come.

This book is written for a very diverse audience, including fisheries and aquatic ecologists, natural resource managers, governmental agency personnel, conservation biologists, social scientists, non-governmental organizations, policy-makers, graduate students, and advanced undergraduate students. Each chapter provides a world or regional view of one of the many facets of globalization, including its relationship to and impact on fisheries resources and their management. An overall theme throughout this book is to address the social and political changes affecting globalized fisheries and provide recommendations for their future

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sustainability. The book contains a number of case studies that focus on the relationship of changing markets and international trade agreements on fisheries resources. These studies also assess and evaluate the management of these systems and the factors affecting their sustainability. We also provide information on declining biodiversity as a result of overexploitation, habitat destruction, infectious diseases, and exotic species introductions, and how these factors impact fisheries, aquatic resources, and human health. The book also includes information on management and governance challenges using examples and lessons learned to illustrate ecosystem-based approaches to monitoring, managing, and governing globalized fisheries systems. As such, this book can serve as a resource for graduate and undergraduate courses, including courses related to fishery management, international political economy, global governance, environmental politics, globalization, natural resource policy and management, and conservation biology.

We were fortunate that more than 85 ecologists, social scientists, and natural resource managers enthusiastically participated in this book endeavor, either as contributors or as reviewers. To ensure the highest-quality information possible and the appropriate coverage of perspectives from both academic fields and policy agencies, two to three experts from academic institutions or management agencies and policy-makers reviewed each chapter. Thus, it is fair to say that the completion of this book is an excellent example of close collaboration between academics, fisheries and aquatic professionals, and policy-makers. We hope that this teamwork will continue and that this book will help to cement the bond between these groups on a worldwide basis. Ultimately, by doing so, we can better manage the world's fisheries resources in a sustainable manner.

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This book results from individuals in multiple disciplines and career paths in academia, governance entities, and management communities that have been involved in providing sustainable solutions for local and global fisheries. These individuals inspired passion among the team as each relied upon the energy and knowledge of others to make this book as complete as possible. Their cooperation, patience, and support in this endeavor are very much appreciated. We are also grateful to the following who shared their time and ideas, and provided excellent and insightful comments while reviewing manuscripts for this book: Jay Austin, Conner Bailey, Ted Batterson, S. Tamer Cavusgil, Patrick John Christie, Joseph Cullon, Tracy Dobson, Roger Eberhardt, David Ehrenfeld, Paola Ferreri, George Francis, Marc Gaden, Leon Gordenker, Jack Helle, Jeffrey Johnson, Gunnar Knapp, W. Andy Knight, Ann Krause, John Kurien, Robert Lackey, Linda Lobao, Andy Loftus, Donald MacDonald, Diane Mollenkopf, Shauna Oh, Rosemary Ommer, Pierre Payment, Rob Pennock, Ken Poff, Bryan Ritchie, Henry Regier, Yvonne Sadovy, Gary Sakagawa, Paul Seelbach, Paulette Stenzel, Merrit Turetsky, Ewen Todd, Marylynn Yates, and Jonas Zoninsein.

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