Freshwater Aquaculture

3rd Revised and Enlarged Edition

Rajendra Kumar Rath
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PREFACE TO THE THIRD EDITION

To fill up the gap due to advancement in the field of Aquaculture, it was felt to update the informations and to incorporate new findings and achievements in the book “Freshwater Aquaculture” by publishing 3rd edition. Due to the adoption of scientific fish farming for production of carp, catfish and prawn, the freshwater aquaculture sector at present contributes more than 2/3rd of total Inland fish production and as a result the country ranks 2nd in the world Aquaculture production. The recent development in technology addresses the issues like genetics, wetland management, aquaculture diversification, export oriented culture, maintenance of International Standard for competing the world trading pattern.

The subjects in the book are dealt with in such a manner that they could easily be understood by the students with an objective analysis of reviewed scientific informations collected from various sources. Hope this book would facilitate teaching of the subject in Colleges & Universities.

The author owes a sense of deep gratitude to a host of dynamic personalities in the international arena of aquaculture, Dr. V.R.P. Sinha, Dr. S.D. Tripathi, Dr. S. Ayyappan, DG Fisheries, ICAR, Dr. N. Sarangi Ex-Director, CIFA, Bhubaneswar, and Dr. A.E. Eknath, Director, CIFA, Bhubaneswar for their inspiration and guidance. The author expresses his sense of gratitude to Dr. I.C. Mohapatra, Ex-Vice-Chancellor, Dr. K. Pradhan, Ex-Vice-Chancellor, Dr. Bhagirathi Senapati, Ex-Vice-Chancellor and Dr. Debi Prasad Ray, Vice-Chancellor, O.U.A.T, Bhubaneswar for their help and suggestions in making this revised edition. I hope the readers will find the present revised edition much more useful.
The author pays a sense of deep homage to late Prof. G.N. Mitra, the legendary Fisheries Expert and Ex-Fisheries Development Advisor and Managing Director, Central Fisheries Corporation, who left the mortal world on 18th July 2006. This edition is dedicated to my mother late Smt. Indumati Devi who passed away on Sri Panchami i.e. 31.01.2009.

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The importance of fish culture to the national economy and its contribution to the Gross National Product hardly needs emphasis. Aquaculture has already assumed the status of a fast expanding industry not only in India but also in several Asiatic countries over the recent past. The book presents a comprehensive body of information on the theory and practice of aquaculture industry with a direct bearing on the rural economy especially in developing countries. As such the emphasis in this book is consciously placed on every relevant data of general interest to the farmers, professional scientists as a whole. The contents of the book, styled in a new format, attempt to provide latest information on all aspects of freshwater aquaculture including artificial propagation, nutrition, health management and integration with agriculture and livestock components exclusively aiming at production and productivity. Some new frontiers in aquaculture research such as genetic improvement, transgenic gene transplantation, nucleic acid isolation, recombinant DNA and gene engineering have also been incorporated to satisfy the interest of students and researchers. The book explores innovative applications of biological and biotechnological methods to aquaculture management with an inter-disciplinary approach and each chapter is replete with an object analysis of reviewed scientific data from various sources such as universities, ICAR research institutes and scientific journals. The author hopes that the book would be of immense use to be practising aquaculturists as well as the academics as a practical guide and also in stimulating further interest in various diverse fields related to aquaculture.
The author owes a sense of deep gratitude to a host of eminent personalities for their kind inspiration, help and guidance in various ways in the making of this book. The foremost among them who deserve a special mention include Prof. G.S. Ghosh, G.M. College, Sambalpur, Prof. P. Mohanty Hejmadi, Utkal University, Bhubaneswar, Dr. V.R.P. Sinha, Director, CIFE, Bombay, Dr. S.D. Tripathi, Director, CIFA, Kausalyaganga, Dr. A. Noble, CMFRI, Cochin, Prof. T.J. Varghese, Fisheries College, Mangalore and Dr. S. Barat, North Bengal University, W.B. My wife Smt. Rebati Rath deserves special thanks for her unusual patience and endurance during the preparation of this book.

The author would gratefully acknowledge suggestions from all quarters that may be useful for improvement of this book in future.

20th January, 1993

R.K. Rath
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