

## Book Review

**Aquaculture research needs for 2000 AD** (Oxford & IBH Publ. Co., New Delhi), 1992, pp. xv + 414, Hard bound, Rs 595.  
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This book is the outcome of the Joint US-India sponsored International Symposium on 'Aquaculture Research Needs for 2000 AD' held in New Delhi during 15-18 November 1988. The main aim of the symposium was to identify the priorities of the collaborative research programmes on aquaculture and to identify the opportunities for joint research between India, US and other countries.

Some of the most important topics covered in this book deal mainly with the status of aquaculture in India, fish nutrition, feed formulation, genetic improvement, biotechnology, diseases in aquaculture, social economy and aquaculture engineering.

In the opening article, P.V. Dehadrai discusses problems of aquaculture in India and south Asian region. India, he says, ranks 136 among the 162 countries where the per capita fish consumption is only 3.2 kg as against the stipulated minimum of 10 kg. He feels that extensive aquaculture is one of the best means of ensuring diversification of land and water use, providing employment and generating income for the rural poor of the developing countries.

V.R.P. Sinha elucidates the status of aquaculture research and development in India with particular reference to carp culture. He also briefly touches upon the status of fresh water prawn culture, cold water fishes, reservoir fisheries and frog culture. He discusses in detail the future research needs of aquaculture in India.

A very interesting account of freshwater aquaculture in India is presented by S.D. Tripathi wherein all important aspects of aquaculture namely induced spawning, brood stock maintenance, larval rearing, waste recycling, fish diseases and control are discussed in great depth. Similarly K. Alagarwami gives a vivid picture on the profile of brackish water aquaculture development in India wherein he discusses about the brackish water land resources, species and seed resources, and production of shrimp in various states of India. He further emphasises the urgent need to utilize the available technology to increase the production rates in the grow out ponds. P.S.B.R. James gives an account of recent advances in mariculture

techniques in India and lists out the strategies for future development. He feels that a lot of work remains to be done by way of extension before sea farming is fully popularized and made into an organised industry for generating protein food and export earnings.

J.Y. Lin, in his article, traces the history of shrimp culture in China prior to 1950 when it was practiced mainly by traditional method of extensive polyculture of shrimps and fishes together with a very low and unstable yield to the present day production of approximately 15 million tonnes. With the application of biotechnology and breeding of new varieties he is confident that China would be able to produce 20 million tonnes by the year 2000 AD. S.N. Chen gives an open account on how Taiwan increased the shrimp production from 4000 tonnes in 1980 to nearly 80000 tonnes in 1987 and how this production crashed down to 25000 tonnes in 1989. Apart from pathogens, there are several other factors responsible for bringing down the production such as quality of brood stock or larvae, management of pond, quality of food, cultured density and disease control management. The most interesting aspect of his article is about the suggested procedures for treatment of Baculovirus (MBV) infection in *Penaeus monodon*.

R.H. Piedrahita and J.K. Wang emphasize that aquaculture engineering is an essential discipline for the continued growth and development of the aquaculture industry. According to them aquaculture contributed 6.1% of the fishery product consumed in the world in 1975 which rose to 8.8% in 1983. The projection for nineties is about 28. J.E. Easley discusses the demand for fishery products, some of the difficulties in identifying and estimating determinants of demand and areas in which future research may be productive. He describes a model that helps in discussing potential effects of research into production technologies and biological and genetic improvements of selected species.

U.K. Srivastava examines the present status of aquaculture in India, economics of both freshwater and brackish water aquaculture, marketing of produce and research needs in the area of economics and marketing of aquaculture production.

"Extension programmes are dependent on a continuous flow of reliable information while research can only be directed towards solving of field problems

through feedback from extension agents in direct contact with producers" says J.T. Davis in his article on "Co-operative Extension Programmes". According to him neither research nor extension can adequately develop without the other. He is confident that together they can develop a viable and purposeful organization that will serve people in need.

In the concluding chapter B.C. Sharma gives an interesting and elaborate account on the social issues in aquaculture. He hopes that social issues are given prominence in both research and development eff-

orts for the production of aquacultures. He stresses the need to develop local technology to solve social issues.

The book has lot of information which is useful to students of aquaculture, researchers, planners and entrepreneurs. No doubt, it will be a valuable addition to the libraries.

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