

## Book Review

**A compendium of aquaculture technologies for developing countries**, by V.R.P. Sinha (Oxford & IBH Publ. Co., New Delhi), 1993, pp. v+115, Hard cover, Rs 250.  
[ISBN 81-204-0764-4]

The book under review is the contribution towards augmentation of protein through aquaculture for developing countries. The main aim of the book is to present the status and prospects of the aquaculture techniques practiced in the developing countries. This book contains 23 chapters. The author in his introductory chapter points out that the present world fisheries production through aquaculture is 14.47 million tons and is expected to reach 22 million tons by the turn of the century. It has been stressed that although vast potential exists for aquaculture, fish farming is yet to become widespread in many Asian countries. Wide range of technologies is available from simple pond culture to culture-based fisheries in small- and medium-size reservoirs which offer great potential for fishery production with minimum risks of environment problems.

Chapters 2-18 summarize the culture techniques for fish (carps, catfish, trouts, salmons, sea-bass, sea-breems, mullets, milkfish, yellowtail, eels, tilapia, snakeheads, perch, groupers and characoid fishes). The areas covered are divided into seed production; larval/fry rearing; market size production and harvest techniques.

The chapter on penaeid shrimps deals with the culture techniques of economically important species such as *Penaeus monodon*, *P. indicus* and *P. merguensis* in Asia; *P. brasiliensis* and *P. stylostris* in Latin America and *P. vannamei* in Equador; advantages and constraints of intensive and semi-intensive culture systems. The author points out that appropriate site selection is an important/crucial factor in determining the success of shrimp farming. Culture of giant freshwater prawn *Macrobrachium rosenbergii* has been neatly summarised covering hatchery systems, larval stages, feeding procedures, nursery treatment and grow out ponds.

Culture of molluscs include oysters, mussels, clams, scallops and abalones. Different types of oyster and mussel culture systems are described.

The chapter on seaweed culture includes important seaweeds such as *Porphyra*, *Undaria*, *Laminaria*, *Euclima* and *Gracilaria*. Production/unit area and rate of return on investments are highlighted in these chapters.

Author has given a vivid picture of integrated fish farming. The chapter has a wide range of subjects such as rice-cum-fish culture, horticulture and fish production, fish-cum-duck culture and fish-cum-pig culture. This is very important write-up in the context of increasing human, cattle and bird population leading to waste disposal problems, increasing cost of fish feed, etc. Integrated fish farming has been proved to be most successful in Asia and has high potential in Africa and Latin America.

The last chapter on culture of live fish food organisms is important as the success of aquaculture depends on the availability of live feed. Mass culture techniques for freshwater phytoplankton (*Chlorella* and *Scenedesmus*) brackishwater phytoplankton (*Chlorella vulgaris*) and zooplankton (*Moina* sp., *Daphnia* sp., *Brachionus* sp. and *Artemia*) are briefly outlined. Author has taken pains to elaborate on hatching of *Artemia* cysts, decapsulation technique, outdoor and indoor culture methods. However, he has failed to point out that India (NIO, Goa) has proven technology for outdoor culture of *Artemia* in salt-pans with a production potential of 20 kg dry cysts/ha/season.

Author has to be congratulated for the hard work for select bibliography, but would have been helpful if relevant references were cited in the text at appropriate places. Bibliography needs to be updated.

The importance of this book is that it serves as a source of updated information on field intensive aquaculture. It is much needed book and will be standard reference for years to come. The material contained in this book will enable aquaculture students/researchers and entrepreneurs acquire a sound background.

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