

Book Review

Handbook on Design, construction and Equipment in Coastal Aquaculture (Shrimp Farming)by **Anand S Upadhyay**

In the past over nearly two decades, extensive, and semi-intensive types of coastal aquaculture aimed at culturing shrimp in some parts of the country has come into vogue in succession along most parts of the coastline, particularly along the east coast. The systems are based, to begin with, on natural phenomena such as tide, larval migration etc., and with practically little engineering inputs. However, the situation changed later with water pumping systems (brackish and sea water) into farms, coupled with pre-planned stocking and feeding schedules and engineering inputs. Brackishwater aquaculture engineering assumed crucial importance as the transition took place from tidal intake and off-take, for the reason that the characteristics of coastal lands and the sea-land interface, such as the tidal effects, wind force, cyclonic effects etc., entail application of engineering skills, both for designing and construction, and determination of the specifications of an array of equipments required and their installation.

In this context the relevance of a book on design, construction and equipments in coastal

aquaculture was rightly perceived by the author and the book takes the readers through a wealth of information and details on the subject in a succinct manner.

The book is divided into five chapters. The first chapter deals with site selection for coastal aquaculture. The various factors to be considered in respect of site selection such as water source, drainage, environmental factors, topography, tidal amplitude etc. are dealt with and soil quality and water characteristics are also treated in detail in this chapter. The second chapter deals with design and construction of aquaculture farms and this forms the core of the book. The various engineering aspects of dikes, channels and water control structures are described in detail here. The concepts of inclusion of sedimentation and reservoir tanks, and closed systems in the farm-layout apparently, gained prominence after the time of preparation of the book and therefore their omission is understandable. Nevertheless the engineering details given appear adequate to include them in the farm design. Another aspect is the non-

**Publisher: Allied Publishers Ltd.,
15, J.N. Heredia Road, Ballard Estate,
Bombay 400 038
[1994. 112 pp. Price: Rs. 450. (SAARC
countries) US\$40. (others)]**

inclusion of the latest filtration systems to prevent ingress of minute particles of pollutants at the intake and outlet points. The provision of nylon netting at the inlet and outlet points as designed may not be adequate in the present conditions. Drum filters or other similar devices seem to be essential for the purpose. The third chapter deals with the water supply system and gives a good account of various pumps and computation of capacity requirements. The fourth chapter dealing with aeration could have better been clubbed with the third but this is not a real impediment. The fifth chapter dealing with economics no doubt gives a basic idea. However these may have to be adjusted with reference to the spatial and temporal changes in the variables, in the next edition.

The book contains very useful information which non-engineering personnel engaged
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in coastal aquaculture should imbibe. It will also help the students of coastal aquaculture as well as aquaculture engineers in the refinement of their knowledge of the subject.

However there are some points which the author as well as publisher should perhaps keep in mind while preparing the revised edition of the book. There are several spelling mistakes (which do not really hamper reading) but it would be desirable to eliminate them in the next edition. A comprehensive index could also have been added and addition of a glossary of technical terms would have been more useful to readers of non-engineering background. The problems given as examples could have been left unsolved, and clues and answers could have been provided to help the readers to solve them themselves. The list of references may need expansion to help the readers to go further deep (No paper from 13 volumes of Aquaculture Engineering seems to have attracted the attention of the author.)

(Reviewed by K. Vijayakumaran, Scientist, CMFR Institute Visakhapatnam - 530 003)