

Book Review.

THE FARMING OF FISH C. F. HICKLING (Pergamon).

This small book (85 pp. and index) is one of a Biology in Action series of Pergamon's Commonwealth and International Library. It serves as an authoritative introduction to the subject, as there is none in the world with a wider experience in the field than Dr. Hickling. It is 'essential reading' for an understanding of fish-farming, which in its broadest sense includes not only freshwater but also brackish and marine pisciculture, and which will one day be of considerable importance in Papua and New Guinea.

The format is logical, as one would expect, and includes, besides an introduction which stresses the problems of international co-operation in marine fisheries, an aside on the history and present intensity of pond-culture. Dr. Hickling, whose estimates are as well-informed as anybody's, considers that annual production from ponds is about 600,000 tons, or about 4 per cent. of the total production of edible fish, allowing for the considerable manufacture of fishmeals and other non-edible products.

The major part of the book is devoted to the principles and practices of fish-farming;—the physico-chemical basis of the methods, the bio-

logical requirements, the importance of thorough preparation and considered appreciation of techniques. Increased productivity through culture of mixed species is discussed, tantalizingly, since at this stage these species are unavailable in the Territory, due to quarantine restrictions. The vast potential of farming the sea is touched upon, and is of special interest to this country, with its relatively extensive coast-lines, much of them agriculturally useless or at best uneconomic.

Dr. Hickling's question; "Why Not More Fish-Farming?" is very appropriate to us here, when it is appreciated that "poor tropical soils" can produce 2500 lb. of fish per acre per annum—at least *ten* times what can be expected from say, cattle. However, it is cautioned that "though fish-farming is neither more difficult nor more laborious than other kinds of farming, it fails unless the people have some tradition of intensive livestock husbandry" (as, of course do other forms of intensive stock-farming); it is therefore recommended for small-scale work in mixed holdings.

Finally a short list of Further Reading is appended for those interested in more detailed information in some of the technical aspects. Not the least of these recommendations are two other books on fish-farming by Dr. Hickling, which this reviewer has used extensively in his own work.

L. W. C. Filewood

Port Moresby: V. P. Bloink, Government Printer.—A7375/5.69.