

BOOK REVIEWS

Oceans of Wealth? *by the Review Committee on Marine Industries, Science and Technology*
(AGPS, Canberra, 1989) pp.xx + 188, ISBN 0-644-09617-9

This publication is the report of the Review Committee on Marine Industries, Science and Technology, which was appointed by Barry Jones, the Australian Minister for Science, Customs and Small Business. The Committee was chaired by Professor McKinnon, Vice-Chancellor of the University of Wollongong, and included amongst its members Professor Don Lamberton and representatives from government and industry. Its terms of reference were:

1. Evaluate the achievements, strengths and competitive advantages of Australia's research activities in marine science and technology.
2. Assess the industrial and commercial opportunities which are likely to arise in Australian and international marine industries to the Year 2000, with special reference to the opportunities dependent on marine science and technology.
3. Provide advice on those factors which are causing under-achievement in the economic contribution to Australia's international competitiveness of the industries mentioned above, and identify actions by Government and industry which could enhance the performance of these industries.

In this review, I do not intend primarily to debate the merits or otherwise of the recommendations of the McKinnon Committee, but will confine myself to the value of the 'book' which has been produced. However, in my view the response of the Australian government to the recommendations of the Committee has been disappointing. The Australian government did not, for example, accept the Committee's main recommendation to establish an Australian Marine Industries and Service Council (AMISC) with an independent chairperson and eight other members appointed on a personal basis (taking into account their expertise and the need for some experience in commercial/industrial management). Instead, the government intends to rely on an in-house public service arrangement involving a group of public servants to be appointed to the Department of Industry, Technology and Commerce (DITAC) plus the heads of marine agencies in other Commonwealth departments. This hardly seems a very promising arrangement for strengthening the international competitiveness of marine-based industries in Australia and for fostering development of industrial and commercial opportunities for marine-based industries of the future. It is not a very promising arrangement because it lacks openness and involvement by the concerned community at large, and may suffer from bureaucratic inertia and irrelevance. Public service bureaucrats have seemingly used this report to make recommendations to ministers to strengthen the public service empire. The likely result, therefore, will be quite different from what the McKinnon Committee recommended. Some might even suggest that the

government's response to the recommendations of the McKinnon Committee is perverse.

The report, *Oceans of Wealth?*, forms a valuable book. It brings together for the first time in book form Australian data about the contribution of marine resources to our wealth, and indicates further prospects for the industrial use of such resources. It is very well presented, includes an index and should be a valuable reference for anyone interested in an overview of Australia's ocean resources. Topics covered include fisheries and aquaculture, tourism and recreation, oil, gas and offshore engineering, marine transport and shipbuilding, defence, marine biotechnology, environmental management, research infrastructure and institutions, and higher education and training resources.

The report appears well balanced in its coverage, and includes valuable information which is not readily available elsewhere; for example, on marine aquaculture in Australia and its potential. However, it largely ignores Australia's responsibilities in relation to the marine areas of Antarctica. Bearing in mind that Australia claims sovereignty over the Australian Antarctic Territory (a major part of Antarctica), Australia's international responsibilities in relation to the Antarctic marine areas need to be kept under scrutiny, especially given the initiatives of Australia and France to establish a world park in Antarctica.

The Committee estimates that Australian marine industries generate over \$16 billion annually in gross income, and account for about \$4.5 billion annually in gross export income, and believes that "these figures can be increased dramatically if Australia seriously takes up the marine opportunities available to it".

As mentioned earlier, this Report is a useful source of data on Australian marine-based industries. It also provides pointers for the development of new commercial export possibilities. For example, it points out that knowledge gained from dealing with Sydney's effluent problem may provide a basis for export of expertise to Asia to assist in dealing with marine effluent there. In the longer term, the Committee sees a potential for developing marine biotechnology industries in Australia. It suggests that in 1988 the only successful activity in Australia in this area was the mass culture of the algae *Dunaliella salina* as a source of natural beta-carotene, for export to Japan, the United States and Europe. The Committee sees potential, however, for marine biotechnology in relation to aquaculture, pharmaceuticals, chemicals, pollution control and fouling control, and recommends that special centres for higher education and government bodies, such as the Australian Institute of Marine Science (AIMS), should give particular attention to these areas.

Interestingly enough, in Chapter 12, where priorities and structures in marine resource development are discussed, the Committee sets out four options which the government might follow in that regard: (a) a 'relaxed' option, (b) a 'steady-as-she-goes' option, (c) an 'industry-orientated' option, and (d) a 'radical' option. The Committee in effect recommends what it calls an 'industry-orientated' option, but government seems to have basically adopted the 'relaxed' option. I shall therefore conclude by quoting the Committee's assessment of the 'relaxed' option:

Undeniably, the adoption of the 'relaxed' option would have attractive features — no increase in expenditure, no on-going body — perhaps no problems? Unfortunately, the Review Committee cannot guarantee no problems. The strongest objections to the relaxed option are that opportunities will slip through our fingers and that it takes no account

of the cost of inaction. Australian history shows that the relaxed option has failed. Government must set out a vision of the future and establish a capacity to respond to clearly established needs. (pp. 159-160)

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Technology Absorption in Indian Industry edited by *Ashok V. Desai*
(Wiley Eastern Limited, New Delhi, 1988) pp. x + 210, \$US10.00, ISBN 81-224-0051-5

This volume is a collection of essays on the technological performance of Indian industry under given industrial, trade and technology policies. All of the essays, except one, were published in *Economic and Political Weekly*, Special Number 1985. The significance of these articles being published as a book lies in the importance of the issues addressed to both developed and developing countries. Although the literature on technology transfer is prolific, there are very few empirical studies, especially from the view point of developing countries. This book presents a valuable contribution.

The global trend towards liberalisation seen in direct foreign investment cannot be discerned as clearly in the field of transfer of technology. The regulation of transfer of technology emerged in the early 1970s in a few Asian and Latin American countries. Policies in these countries have been aimed primarily at reducing the costs of transfer of technology while simultaneously emphasising self-reliance and indigenous capability.

Kuznets has pointed to the importance of the interplay of technology and existing institutions as the basic forces in economic growth. In the interplay of technology and institutions, it is the latter that is dominant.¹ The series of articles in the book implicitly attempt to test this thesis empirically. The collection is thematically well organised and reads well.

India has been a leader in the formulation of defensive and restrictive policies. It is, therefore, opportune that the studies looking at various aspects of technology imports in the country, both by Indian researchers and European researchers, have been put together at a juncture when the country is itself questioning technological performance and technology obsolescence in industry. The book is also timely since technological factors have become increasingly prominent in defining international competitiveness.

The six studies have a common thread in that the technological performance of Indian firms is found to have only a marginal relationship to technology policy. It is, in fact, dependent on the policies pertaining to the structure of the market and on those defining structures of industry. The conclusion of Cooper and Alam that, although technology policy has been remarkably successful in regulating the number of collaborations, its success in promoting technological development in Indian industry is questionable, is therefore not surprising.