BOOK REVIEWS

The Fight for the Forests—The Takeover of Australian Forests for Pines, Wood Chips and Intensive Forestry. By R. and V. ROUTLEY. Third edition. (Canberra: Research School of Social Sciences, Australian National University, 1975.) Pp. 407, ISBN 0 7081 0646 3.

This is a formidable book. Numerous partial analysis studies, innumerable arguments, social values, theory, technical relationships, and empirical investigations are interwoven throughout. It is also a polemic book. A review is indeed a difficult task. To do justice to the book each of the above should be pursued in depth. This reviewer is not familiar with Australian forestry. Thus the only feasible route for this review to take is to place emphasis on the methodological issues raised and the approaches used. It will, no doubt, be disappointing to those who seek an evaluation of the empirical findings or who wish a judgment rendered on the policy conclusions.

The book consists of sixteen chapters and six appendices plus an introduction to this third edition. In the acknowledgements the authors state that multiple disciplines are necessary for the analysis of a problem as complex as forest policy in Australia. Although they admit a lack of expertise in many fields they believe 'An acquaintance with logic and methodology of science, probability and decision theory, appears to us as adequate a background for dealing with such an area as an acquaintance with the botanical features of *Pinus radiata*—the latter being conventionally assumed to confer expertise in any aspect of the area'. The main thrust of the book is an attempt to destroy the basis for the forestry policy in Australia. This policy is one of government encouragement for public and private forestry for timber production.

In their attack on Australian forestry policy the authors pay special attention to three factors. First, the use for planning purposes of projections indicating high rates of population growth. Second, the proposition that self-sufficiency in timber is better for Australia than dependency on other countries. Third, the emphasis on single purpose, commercial forestry production.

Several arguments are arranged against Australian forestry policy. First the population projections used will substantially overstate future Australian population and demand for timber. Second, the arguments concerning self-sufficiency are not well grounded in economic reasoning. Third, the cost-benefit analysis of forestry projects depends on methodology and assumptions which are highly suspect. Fourth, important social values for forestry have been neglected.

The book is an interesting one to read. It has real breadth. Almost every paragraph gives one a new thought or a provocative suggestion. Regardless of the side of the argument one wishes to take, there would be value in following the authors on their journey through this subject. However, unless the prospective reader is a careful reader and an experienced worker in several fields he or she may be led astray. Permit me to provide examples of some incomplete or questionable arguments and faulty analysis.

In Chapter 5, statements are made about foreclosing options unnecessarily by certain forestry projects. While this may well be true there is incomplete specification of these foreclosed options. There are procedures for evaluating non-commercial forestry outputs and the worth of future options. But such procedures depend upon knowing the particular nature of what is being sacrificed.

The treatment of the price mechanism and the footnote on the work of Forrester and Meadows in Chapter 4 is much over-simplified. Demand and supply, as concepts, are not treated in accordance with received economic theory. There is no recognition that the simulation models referred to neglect essentially all mechanisms for regulating social behaviour. Nor is there recognition that these models are not now taken as seriously in many quarters as they were when they appeared. In the material on cost-benefit analysis or benefit-cost ratios (the authors make a distinction) there are some interesting questions that are not examined which would affect the conclusions reached. For example, why should the return to public capital be maximized in contrast to all capital? There is no mention of the intergenerational equity problem. The treatment of indirect costs and benefits in Chapter 13 neglects much of the rather substantial literature on the subject.

In Chapter 15 parallel problems in the U.S.A. and New Zealand are discussed. While this reviewer does not have sufficient knowledge to comment as far as New Zealand is concerned, the U.S.A. situation is, again, much over-simplified. Much of the material presented is valid, yet there are points of view which have not been adequately represented. The U.S. Forest Service has been criticized not just for being timber oriented, but also because they could increase timber output *without* sacrificing other output from the forests. I found no reference to the extensive writings of Marion Clawson on this subject.

There are also some organizational problems with the book. A subject or problem is introduced and treated superficially or inadequately and one concludes that the authors are unaware of an important problem. But at another point in the manuscript the subject is discussed in more or less detail. For example the problem of intergenerational equity is not discussed to any significant extent in the text but it is in Appendix 1. One is then left wondering whether the authors recognized the connections among all of the considerations they introduce.

Appendix 1 is entitled The Economic Framework and Underlying Economic Issues. The appendix is an attempt to demonstrate why the economic framework is an inadequate tool of analysis for policy issues. One principal reference is chosen to represent the approach of economics. This is a popular book on environmental economics. The more technical literature on the subject has been neglected. While I believe the authors have correctly identified the areas of economics about which one could raise questions, the treatment given to those issues is not profound.

If valid, the above criticisms indicate major defects in a serious volume on an important subject. This reviewer does, indeed, believe the book has major defects. But I suspect that even after accepting the defects, the book will perform a significant service because there is a strong element of truth about the major thrust of the argument.

A reformulation of the authors' central argument might run as follows. First, there is usually substantial circular reasoning in projecting future requirements as a basis for public investment. That is, these are often in the nature of a self-fulfilling prophecy. Second, despite the substantial progress which has been made in valuing non-market goods, there is no generally accepted conceptual framework for relating commercial and non-commercial values for an organism as complex as a forest. Third, the commercial system is unlikely to identify values and social objectives which threaten its survival, yet those values and social objectives may be important to the quality of life and human welfare. Fourth, a typical characteristic of bureaucracy is that it has objectives of its own quite apart from the social objectives it was created to pursue. Two such objectives tend to be the maximization of its own budget and its own survival. Planning activities and statements of social need developed by bureaucracies should be evaluated in that knowledge.

From these propositions I suspect that many valid questions can be raised about forestry policy in Australia. In a democracy public debate about valid policy questions is a healthy activity. Whether the answers the authors provide to these interesting questions should be accepted as the last word is a very different matter.

EMERY N. CASTLE *Resources for the Future, Inc., Washington, D.C.*

Confronting the Future—Australia and the World: the Next Hundred Years. By CHARLES BIRCH. (Ringwood, Victoria: Penguin, 1975.) Pp. 360, ISBN 0 14 021937 4.

In this book Professor Birch outlines the need for a 'sustainable society' and develops prescriptions for attaining it. The sustainable society is described as one in which zero growth has been achieved in population size and material wealth per person; in which economic growth is in terms of services only; and in which industry is directed to social goals instead of profitability. Birch sees no alternative for Australia or for the world. He is concerned with material consumption, growing apace in developed countries and restrained in developing countries by population growth. He suggests converting Australia into a society that can serve as a model for developed countries and as a partner of developing countries.

The market is seen to encourage material consumption and to widen income disparities within and among nations. The consequences are environmental damage, Malthusian population dynamics, maldistributed food, irrational use of energy and mineral resources, misused technology and urban blight. Birch would entrust allocative and development decisions to the government, educating to produce humans with tastes in accord with the sustainable society and who will demand the political leadership to bring it about. He is highly critical of the market as an instrument to modify and limit consumption, material or other. But it is easy to criticize from the comfort of the 'third sector' (neither market nor public) without accountability to the market or to the ballot.

Agricultural economists will find Chapter 5 directly interesting. Here Birch deals with food. He would distribute food according to need instead of buying capacity. 'Markets within and between countries are quite inadequate mechanisms for controlling the just distribution of food.' (p. 176). Australia should support and contribute to a world food bank for emergencies, and should confine meat production to pastoral land, liberating grain for direct human consumption. The greatest agricultural contributions from developed to developing countries are fertilizer and knowhow, especially methods that economize on energy inputs. In discussing world needs for protein and oil rich seeds, he fails to note the rapidly developing oil palm industry.

Chapter 9 too will interest economists. Here he deals with the use of technology. Rather than restrain technology, Birch would use continuing education to reeducate workers thus made redundant, in professional skills, arts, crafts and creative leisure. He calls for increased industrial democracy and cellular instead of hierarchical structures in relating workers to management. He would make managers in industry and commerce accountable to the whole community, not 'just stockholders' and would consider legislating maximum as well as minimum wages. He recognizes the need to 'modernize' Australian unions with respect to industrial democracy and the need to buy labour-intensive goods from developing countries. He says nothing about articulating educational programs with employment. Leads and lags are critically important.

Among the more controversial of Birch's political proposals for Australia is to substantially increase the power of the national relative to state governments in using and conserving minerals and water resources, as well as the 'national estate': the eastern coastline, the arid centre, marine areas, Cape York Peninsula and the alpine area. He also would strengthen the national government in transportation policy and would join Australia with international cartels in the sale of mineral products.

Birch is at his best on issues of environmental resource management and related energy issues. However, those who know of the soil conservation legislation of the U.S.A. in the 1930's, of the concurrent literature of Aldo Leopold and others, of the 19th century polemics of Governor Pinchot and of the conservation movement of the Theodore Roosevelt administration, will find a bit odd the statement that ' . . . until the late 1960's no one had heard of ecology, no one had heard of an environmental crisis.' (p. 45).

In sum, Birch has produced a book that will increase the intelligence of the reader over a wide range of current ecological concern. As with many such contributions, the diagnoses are more cogent and less controversial than are the prescriptions. Economists will be disturbed by the short shrift given the market as an institution for accomplishing social ends. They will not be reassured on his understanding of the market when they read on page 168: 'When half the world needed more food the rich countries produced less than they could have done to keep prices up. This is another example of the failure of the world marketing system to cope with distributive justice.' Nor is it easy to see how the use of government to cartelize mineral sales will have

different results. His call for industrial democracy might be interpreted as extending the use of the market. In any event it is suspect as a means to reduce material consumption in developed countries.

In his final chapter Birch recognizes how hard it is to retain democratic control of a government burdened with the responsibility of evolving the sustainable society without much greater enlightenment of the electorate. In the end Birch places great reliance on education as the source of change in tastes and ability to relate man more rationally to man and to his world. From the Challis Professor of Biology such a statement might be considered by those in the market sector to be more than a little self-serving. Never mind. Those of us in the third sector have not been reluctant to identify self-serving statements from the market sector!

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Environment and Man. Edited by J. LENIHAN and W. W. FLETCHER. Volume One: *Energy Resources and the Environment* (Glasgow: Blackie, 1975.) Pp. 194, ISBN 0 216 90076 X; and Volume Two: *Food, Agriculture and the Environment* (Glasgow: Blackie, 1975.) Pp. 130, ISBN 0 216 90078 6.

The first two volumes of this new series of readings on *Environment and Man* are of little interest to most agricultural economists, and of even less use to those responsible for teaching courses on the economics of environmental problems. Both volumes are predominantly technological in orientation with only minimal reference to the economic dimension of environmental problems. Furthermore, and to be expected given that the contributors are not economists, some of the more common economic fallacies are committed several times in what little economics there is in the series. It would be unfair though to judge these books by the standards applied to texts on economics, as the foreword clearly states that they are aimed mainly at 'teachers and students involved in degree and diploma courses in environmental science', and of course, at the ubiquitous intelligent layman, much loved, but I suspect rarely successfully wooed by publishing houses.

Despite the above, the series may be of interest to economists with little or no background in the physical and biological sciences who are looking for potted summaries of environmental problems as seen from the perspective of other disciplines. Only readers who fit this description are at all likely to benefit by persisting with the remainder of this review.

Volume 2 on *Food, Agriculture and the Environment* may be of interest to anyone who has to teach economics to students enrolled in a faculty of agricultural science, as much of the material in this volume parallels very closely the traditional subject matter of core courses in agriculture which this reviewer is familiar with. The least traditional, and by far the best chapter in this volume is the chapter by Hartley entitled Agricultural Chemicals and the Environment. More so than in any other chapter, the aim of the series to present a balanced discussion of the issues 'based on reason rather than emotion' is achieved in this contribution. Incidentally, it also provides ammunition

for anyone inclined to argue with committed environmentalists, who will find much to disagree with in Hartley's views. The tone is set in the first few pages which carefully sort out some valid arguments for conservatism in changing agricultural practice as a policy of environmental protection, but effectively debunk the case for conservation *per se of* 'The so-called "balance of nature" '. He then goes on to discuss the case for, but mainly against, the use of agricultural chemicals, and to meticulously dissect and analyse the different dimensions of the problem. The chapter ends by drawing attention to an increasingly important dilemma posed by the practice of requiring new chemicals to be extensively tested before they can be released commercially. Hartley claims that environmental safety would best be served by production of a wide variety of specialized products which could hence be used in careful moderation; but he notes that the ever growing list of mandatory tests necessary to demonstrate environmental safety has made it too expensive to develop such chemicals, which inevitably have a low sales potential.

The other chapters in Volume 2 were much less interesting to this reviewer, perhaps because familiarity breeds contempt. None of these chapters seemed to get to grips with the important questions of policy involved in the environmental impact of agriculture, and Chapter 5 on Food, Farms and Factories in particular lacked a sense of direction. As a result, it contains more than its fair share of trivia and should be read mainly for its soporific value. Chapter 1 provides an introduction to the concept of energy budgets, and helps explain to the uninitiated why some scientists believe we should return to 'more primitive' forms of agriculture. Chapter 2 contains a rather dull discussion of the technical aspects of the effect of different types of land use on various aspects of the environment, followed by a detailed discussion of the causes of soil erosion. Excessive detail also mars Chapter 3 on the optimal use of plants, as most of the twenty odd pages are devoted to a discussion of alternative sources of protein.

If Volume 2 of this series proves mildly disappointing to committed environmentalists, Volume 1 on *Energy Resources and the Environment* will be even more disappointing. The two chapters likely to be particularly controversial are those by Dunster and by Brinkworth. The former contribution consists of a detailed technical discussion of the environmental problems associated with the use of nuclear energy, and concludes on an optimistic note. Brinkworth's discussion of the prospects for solar energy is equally detailed and technical, and almost as pessimistic as Dunster's is optimistic. Economics intrudes far more into the account by McFadzean of the history and future of oil as an energy source in the international scene, and this contribution should prove helpful background material for anyone teaching a course on the economics of natural resources. The three earlier chapters are more general discussions of the nature and sources and uses of energy, and on the technical possibilities for economizing on its use. Apart from an undue amount of duplication, these three chapters could also be faulted for a tendency to oversimplify, and in parts certainly strike this economist as being naive. There are also a number of passages notable for their banality, but the following probably takes the prize:

'Energy may be conserved in two ways (i) by not using it, and (ii) by using it in the most efficient way available'.

One pleasing feature of the two volumes was an almost total lack of printing errors. More generally, although it is difficult to find serious fault with the series, it is equally difficult to be at all enthusiastic about it; and amongst agricultural economists at least it seems destined to a place amongst reference books of only limited usefulness.

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Practical Farm Business Management. By V. J. POLLARD and W. J. OBST. (Warrnambool: Key Agri Management Services, 1976.) Pp. 245, ISBN 0 9597350 0 3.

The major orientation of this book is not to farm business management but to farm financial management. Topics outlined are records and accounting, estate planning for minimizing income tax and death duty, decision making, and the management of borrowed funds. Good features of the book are its practical orientation and relatively clear exposition. On the negative side, the book rarely discusses principles but concentrates on listings of facts. Many of these will inevitably be out of date in a year or so—for example, sources of farm finance and the conditions attached to them. For the moment, however, the book should be useful to farmers and to students training to be farmers.

Except for the failure to use a gross margins framework, the treatment of farm records and accounts is quite good; likewise with estate planning and credit use, though these are somewhat oriented to Victoria. The treatment of decision making is good in its consideration of tax effects but poor in its treatment of risk which is based on the now outmoded distinction between risk and uncertainty. Throughout the book, no references are cited for further information and the reader is not helped by the fact that some tables and diagrams are untitled. A good index is provided.

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