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Book reviews

Private Firms and Public Water: Realizing Social and Environmental Objectives in Developing Countries, edited by Nick Johnstone and Libby Wood. Published by Edward Elgar Publishing, Cheltenham, UK, 2001, pp. ix + 224, ISBN 1 84064 587 3, £59.95.

This book is concerned with the relationship between public and private sector participants in the provision of water supply and sanitation (WSS) in developing countries. It reports on a study funded by a number of European agencies, and consists of an initial review of relevant principles, four country case studies and some concluding comments. The focus is on ‘the potential for market failure related to social and environmental concerns’, rather than the ‘potential for increased efficiency versus the potential for anti-competitive monopolistic behaviour’. Profound familiarity with the WSS problems of developing countries is not necessary to accept the appropriateness of such a focus. That being said, the conventional economist could be frustrated by the lack of attention to mainstream pricing and price regulation problems. However, such neglect is warranted by the magnitude of the social and environmental problems associated with WSS in developing countries, particularly the former class of problems.

The conventional arguments for private sector participation (PSP) in WSS rest on a mixture of administrative, government and market failures. While the editors do not regard these arguments as compelling, they take them as given. The focus is on market failures giving rise to over-exploitation and misallocation of raw water supplies, health and environmental externalities and the under-provision of basic needs. Emphasis is on the impact of PSP on the realisation of social and environmental objectives, and the part the public sector can play in ensuring they are beneficial.

The key theme is that, while with PSP, the public sector may no longer be a source of funds and hands-on management, it has a key goal setting and regulatory role. Not surprisingly, this is particularly so with regard to social and environmental issues. Central to this is the proposition that, without such public sector involvement, PSP is unlikely to provide beneficial environmental and social impacts, possibly to the extent that, ultimately, it is unable to provide the efficiency benefits which initially justified it.

As in the developed world, the role of the public sector is seen to be profound, extending from the point of ‘contract design to the selection of technologies and management solutions’ and, one assumes, monitoring and

auditing of on-going activity. However, there is a difference, at least of emphasis, in the nature of public sector involvement between developing and developed countries. This is particularly the case with regard to the delivery of services to the poor. While the importance of sound regulation is well understood in developed countries, its preferred nature in the developing world requires appreciation of the substantial health, hygiene and equity issues involved in contexts where PSP is likely to be highly regressive.

Sections 2.3–2.5 contain discussion of the role of the public sector in regulation and contract design. While not necessarily novel, this would be of interest to readers regardless of whether they are concerned with developed or developing countries. Chapter 3 expands on this theme, but the focus now is on discussion of service differentiation and decentralised management to meet the needs of the poor. A significant thesis is that the more conventional means of provision for poorer households, presented in Chapter 2, which are calculated to make demand more homogeneous and to allow for standardised service provision, may not be appropriate. In many cases, alternative solutions will be required to ensure the needs of poorer households and neighbourhoods are met at an acceptable cost, while overcoming problems of illegal water use, billing and revenue collection. Imaginative possibilities exist, often involving integration of the work of PSP providers with informal, community organisations. A number of these are outlined in Chapter 3. Certainly, this chapter, along with the remainder of the book, should be required reading for any uninitiated neo-classical zealot contemplating working in this or related areas in the developing world.

The four case studies are of Buenos Aires and Cordoba, Manila, Mexico City and Abidjan. These were selected to provide a range of experiences, institutional contexts and social and environmental concerns. They are contained in chapters 4–7. The presentations are somewhat detailed and the reader is best advised to skip them and go straight to the concluding chapter before dipping into the case studies as needed. The weight given to the case studies is somewhat uneven, with the Argentine chapter occupying 63 of the 159 pages committed to this part of the book.

In the concluding chapter, the editors summarise their view of the lessons from the case studies. They assert that these lessons 'provide a solid basis upon which to ascertain which issues are most important and warrant further attention from public authorities, concessionaires, development agencies, NGOs and other bodies'. As with the rest of the book, and particularly in the chapters written by the editors, the emphasis is on issues involved in the provision of services to the poor, with environmental objectives receiving less attention. Perhaps this imbalance is justified by the fact that water use, sanitation and waste disposal in poor neighbourhoods are often the cause of significant environmental problems in developing countries.

The most important issues, each of which is discussed briefly, are seen by the editors to be:

- pricing, system rehabilitation and raw water supply;
- progressive tariffs and non-payment;
- expansion costs and connection fees;
- formalisation of the roles of the provider and the incentives of the public authorities;
- forms of PSP and the scope of the contract;
- contract design, regulatory burdens and illegal connections;
- service prioritisation and differentiation;
- user participation and decentralised management; and
- bidding procedures, renegotiations and rate adjustments.

To a degree, the book lacks coherence, with the conclusions not connected to the preceding chapters as well as some readers might wish. To an extent, this can be attributed to the case studies being written by a number of authors from different countries. Even so, one feels that the editors could have written their introductory chapters with more of an eye on the content of the concluding chapter, and edited the case studies to the same purpose. This is a minor criticism, however. Overall, the book is a useful exposition of some of the problems facing public regulators dealing with PSP in WSS in developing countries. It should be required reading for all working in the area. It would also be of interest to regulators in the developed world, if only because of the necessary differences in emphasis needed in the developing world, and the resulting light this sheds on their own tasks.

WARREN MUSGRAVE
WFM Consulting, Mittagong

Policy Reform in American Agriculture: Analysis and Prognosis, by David Orden, Robert Paarlberg and Terry Roe. Published by The University of Chicago Press, Chicago, IL, 1999, pp. xiii + 270, ISBN 0 226 63264 4, US\$38.

This book is very well written, penetrating in its analysis of the issues it covers and fascinating in its description of events over seven decades. It is fascinating because of the wealth of political and institutional detail provided and the coherent way in which the economic and political history of reforms unfolds. At the same time, some readers may find it a depressing account because of the way in which the American political system responds to lobby pressure from a still-powerful set of commodity lobbyists and to short-run

market conditions, rather than to a sense of national goals. Thus, the authors state '... the central policy reform problem in American agriculture endures: the problem of removing programs and entitlements that have lost their original justification.' (p. 2) It is worth contrasting this statement with the reforms of agricultural policy over the past two decades in the context of the very different political institutions of Australia and New Zealand.

The principal purpose of the authors is to identify the forces which have shaped American farm policy and reform of that policy since its inception with the Agricultural Adjustment Act of 1933 through to the current legislation, the FAIR Act of 1996, and to the possible elements in the legislation to be passed in 2002. The analysis is partly economic, partly political economy and partly political. It is also exclusively a positive analysis, in the tradition of political economy, the authors having chosen this deliberately. The authors' prognosis for further reform is not optimistic, given their view that the circumstances which gave rise to the reforms embodied in the FAIR Act may not exist in 2002. In the context of the current debate in Congress about the funding for American farm policies over the next decade and about the instruments to be chosen, their prognosis seems prescient.

The wealth of information contained in this book is structured in the following way. The introductory chapter contains a summary of the attempts made in different periods to reform previously enacted legislation, and it provides four alternative strategies which might have been used to achieve these reforms. The strategies are based on whether or not compensation is paid to previous beneficiaries and whether the implementation is fast or slow. The choice in the first category is determined by the budgetary implications of any proposed reform, the second by its political feasibility. To the extent that there has been reform in American farm policy, and it has been limited largely to exported products, the most common strategy has been the 'cash out', i.e., paying compensation over a period of years for loss of previous entitlements.

Chapter 1 contains a description of the origins of USA government intervention in the farm sector beginning with the 'New Deal' policies of 1933. Here, the authors remark that the policies were seen as being so successful that they became a permanent subsidy program rather than the short-term stabilisation measures they were intended to be. Despite these subsidies, the authors argue that the very substantial transformation of American agriculture over the past 70 years owes more to public funding of infrastructure (education and technology) than it does to subsidies for commodities.

In Chapter 2, a political analysis is presented of why the necessary reforms, from an economic perspective, failed to materialise between 1948

and 1985. Interest-group theory is used to explain why these necessary reforms were not undertaken. The falling numbers of farmers only increased the ability of those remaining in the industry to organise themselves as an effective lobby. Once organised and with programs in place, it then became easier for them to lobby for a continuation of support, the 'feedback' effect. The reader is taken through this period decade by decade to gain an understanding of what the proposals for reform were and why circumstances prevented them from being enacted as legislation. The failure of the unilateral approach led in 1986 to the use of the multilateral approach in the GATT.

In Chapter 3, the authors briefly review the history of agriculture in the GATT and the attempts by the USA to achieve reforms of its competitors' agricultural policies. They discuss the American 'zero option' which was proposed in 1987 in the Uruguay Round negotiations and the stalemate which it helped to cause in 1988; the Blair House Accord in 1992, which was agreed bilaterally by the USA and the EU and which sidelined the Cairns Group; and they provide a summary of the content of the Agreement on Agriculture. There is also a brief discussion of how agriculture was treated in the negotiations which created the NAFTA.

Chapter 4 presents a detailed account of the Congressional debates which led, eventually, to the implementation of the FAIR Act in 1996. The authors bring into sharp focus the tensions that existed between the traditionalists, largely among the Democrats, who wanted a continuation of commodity and other program, and those who wanted smaller government, 'freedom to farm' and reduced budgetary expenditure on agriculture. This description is a fascinating account of how far removed the actual political mechanisms were from the economist's model of policy design.

In Chapter 5, the authors present an account of the economic consequences for USA agriculture of the 1996 Act, together with an analysis of the forces, both economic and political, which led to the adoption of the Republican position, namely, freedom-to-farm. They conclude that control of both Houses of Congress for the first time in 40 years together with a period of the highest commodity prices in 20 years are the best explanation for the introduction of decoupled payments for exported commodities, the capping of loan rates at apparently low levels, flexibility to plant and the removal of unpaid acreage reductions. They note, however, that the reforms contained in the Act largely bypassed the import-competing commodities (e.g., dairy and sugar) as well as the 60 per cent of USA agricultural sales receipts from commodities which have always been very lightly supported (e.g., fruits and vegetables). The authors also consider alternative explanations including the WTO Agreement on Agriculture, Federal budget pressure, the cumulative modernisation of agriculture, the decline in the

rent-seeking ability of the farm lobby, and the emergence of a new set of ideas or philosophy. All of these alternatives are rejected as a basis for explaining the final choice of policy instruments contained in the Act.

In Chapter 6, the authors conclude that the FAIR Act of 1996 was less innovative than often claimed. In support of this position, they suggest that the Act led to more, rather than to less, budgetary expenditure, it continued paid land diversion, it did not represent any reform of the import-competing commodities, and the permanent laws of 1938 and 1949 were left in place. They then speculate on the form of the legislation which, this year (2002), may replace the 1996 Act and they do so based upon six variables. These are, continued structural change in American agriculture, the state of international markets, the party in control of Congress, budgetary pressure, the political feedback from the current legislation and whether or not it will 'weaken rather than strengthen the reform-blocking influence of the process establishment in USA agriculture.' (p. 198) The sixth consideration is whether or not there are some fresh ideas about the appropriate role for government in agriculture. They conclude by presenting a best-case and a worse-case scenario. In the former, there is a continuation of the market orientation of the FAIR Act for exported commodities, the introduction of market forces to the import-competing commodities and a repeal of the permanent legislation. In the worst-case scenario, none of these outcomes occurs and, instead, there is an emphasis on market intervention instruments. They explain the forces which are likely to produce these extreme outcomes.

It is made obvious to the reader in the concluding chapter that, despite the very altered economic and social circumstances of USA agriculture today as compared with the conditions which led in 1933 to the origins of today's policies, the rational reform of these policies could be as far away now as at any time in the last 70 years. The political power of the farm lobby remains in both the Congress and the bureaucracy; the constraints on intervention imposed by the WTO Agreement on Agriculture have hardly been effective, although this could change as a result of the current agricultural negotiations taking place in Geneva. Also, macroeconomic conditions fluctuate and prediction of the exact conditions at the time that new legislation is being defined are hard to predict, yet were an element in the final definition of the FAIR Act; international markets may or may not be buoyant; and, finally, there is the issue of who controls Congress.

In view of the importance of USA agricultural policy to the economic well-being of other participants in international commodity markets, this is a very important book. It provides those who seek a better grasp of agricultural policy formation in the USA with an in-depth understanding of the processes through which the new legislation will be defined and enacted. Therefore, it must be of considerable concern to those participants to learn how the

legislation of the past seventy years came into being. It is of even greater concern that the current debate in the Congress appears to indicate that the pro-farm establishment in Washington is alive and well and that progress in the WTO negotiations may be slow. The last sentence in the book is very telling on this point. 'If the endgame for these [New Deal-era] farm programs is now underway, it will nonetheless require all the ingenuity and persistence of reform advocates to secure a victory.' (p. 235). We do not have long to wait to discover the outcome.

DONALD MacLAREN
The University of Melbourne

Sustainable Small-scale Forestry: Socio-economic Analysis and Policy, edited by S.R. Harrison, J.L. Herbohn, and K.F. Herbohn. Published by Edward Elgar Publishing, Cheltenham, UK and Northampton, USA, 2000, pp. xii + 247, ISBN 1 84064 356 0, £59.95.

Small-scale forestry usually has a foot in each of two different worlds – forestry and agriculture. Likewise, the pursuit of socio-economic analysis and policy straddles the boundaries between forestry and other professions. In many respects, therefore, this book deals with a significant meeting of worlds.

The book focuses on planted forests. It is a compilation of research at Australia's Rainforest Cooperative Research Centre, and complementary sketches of forestry development in a cross section of developed and developing countries. The project was facilitated by the staging of a Symposium of the Small-scale Forestry Group of the International Union of Forest Research Organisations near Cairns in January 2000.

The first section sets the scene, and opens with a chapter on the role of small-scale forestry throughout the world. This asserts the case for greater small-scale forestry activity, but without the rigour and cogency required to convince many in the forestry profession, nor the sceptical economist. It reveals the editors' belief that small-scale forestry has many spillover benefits for the community, although growers usually remain unrewarded. As a reference for practitioners it would have benefited from a fuller explanation of market failure, a term that is often misunderstood.

Chapter 2 discusses small-scale forestry systems for timber and non-timber benefits including biodiversity. Having described a wide range of benefits and systems, the authors conclude that there remains much left to learn, including from extended economic analysis.

The second section contains seven chapters on social and economic considerations. Recent experiences with Regional Forest Agreements cast

doubt on the political significance of economic calculus, but it is true that policy makers desire estimates of environmental values. Chapter 5 gives forestry practitioners a useful outline of non-market valuation techniques, and a selection of appropriate references. Perhaps more importantly, it shows where economists are coming from in their attempts to improve the transparency and rigour of decisions in managing forests, and the landscape in general, for maximum community benefit.

Chapter 6 covers the tradeoffs between timber production and biodiversity in plantation forestry. It offers an all-too-rare discourse on the relative merits of monocultures and multi-species stands in Australia. One senses the difficulty of integrating biology and economics in the discussion of biodiversity. Biodiversity is used as an indicator of services such as ecosystem resilience and heritage conservation, which can be translated into the total economic value framework discussed in Chapter 5.

Chapter 7 provides some useful evidence of the significance of landscape amenity values of farm forestry for landowners. It defines these values and presents some methods of quantifying them. As has been recognised by landscape architects and farm foresters in Western Australia, there is both an opportunity and a need for farm forestry design to use the principles they have developed. Experience here suggests that landscape architects are the best integrators of the many elements in farm forestry planning – economists don't have a monopoly on integration. The following chapter on carbon-based marketing opportunities contributes an excellent, concise and objective exposé on that subject, reflecting the industry participation of the author.

Accounting and reporting of forest enterprises might seem secondary issues. Their importance becomes clearer in the light of changing community values and in view of how important standing forests are in the context of private and corporate balance sheets. The discussion of the issues in Chapter 9 reveals the gap still to be filled before triple bottom line reporting is truly achieved, and the slow progress in the necessary international harmonisation of systems.

The third section of the book comprises nine country-specific chapters on encouraging small-scale forestry. It is difficult to do justice to the diversity of forestry in any country in the space of five to 15 pages, let alone those of such climatic and cultural diversity as China, India, USA, the Philippines, UK, Germany and Australia. The resulting unevenness between chapters is inevitable, and slightly disconcerting. However, this section is a very useful and readable compilation for practitioners.

It is fitting that the first country visited is New Zealand, as it is arguably the prime example of success. The even stronger heritage of small-scale forestry in European Union member countries, especially in Scandinavia,

explains the close linkages between forestry and farming, and their respective institutions, in those countries. The UK offers a classic example of how important public funding can become in ensuring adequate plantings for landscape and conservation amenity. The chapter on reforestation progress and forestry incentive schemes in Australia lacks adequate representation of temperate forestry, although it does give the reader some leads.

Some of the chapters in this section tend to dwell on the large-scale forestry that often dominates the industry, although this domination is an important part of the context for small-scale operations, especially in developed countries. Overall, this section reveals many similarities between countries, springing mainly from the bio-physical attributes of tree crops. It also identifies differences between them related mainly to cultural and institutional factors. Some similarities are surprising, such as the common need for clearer definition of property rights in China and Australia. A useful addition might have been an outline of global, or least regional, trade in forest products. This would have usefully revealed some of the links between the countries discussed.

The final overview section seeks to draw together some of the themes developed. In addition, it dares to predict 20 features of the new horizons in sustainable small-scale forestry over the next 20 years. This length of planning horizon is the minimum in this field. The writers ask the question, begged in the title, whether small-scale forestry is any more (or less) sustainable than large plantations. They proceed to summarise why small-scale forestry comes out in front in ecological and social terms, if not economic.

The authors have succeeded in their aim of producing a source of reference for practitioners, researchers and students of forestry and vegetation management. The text will provide a basis for policy at government, industry and individual levels. The challenge remains to have the analyses taken on board.

PETER ECKERSLEY

Department of Agriculture, Western Australia

International Environmental Externalities and the Double Dividend, by Sebastian Killinger. Published by Edward Elgar Publishing, Cheltenham, UK, 2000, pp. xi + 214, ISBN 1 84064 493 1, £55.

Killinger addresses the question of the environmental double dividend in the previously little-studied context of a large economy integrated into world capital markets. Previously only closed or small open economies had been

extensively studied. This book introduces new dimensions that include the strategic manipulation of international capital prices in the framework of general equilibrium theory.

In essence, an environmental double dividend exists when the proceeds of an environmental tax, levied on polluting activities and are 'recycled' as reduced business taxes. The first (ecological) dividend is a reduction in environmental pollution, while the second (fiscal) dividend is a reduction in the distortionary and welfare-decreasing effects of business taxation.

Killinger refers to the eco-political debate, in Germany and elsewhere, on the presumed advantages of environmental taxation in terms of achieving a double dividend. It soon emerges from this debate that such a double dividend is far from automatic, with it only arising under specific conditions. The book examines these conditions when (a) pollution externalities are not only national but cross-border international (e.g., downstream river pollution or acid rain); and (b) the country considering environmental taxation (i) is a large open economy, and (ii) intends to implement it unilaterally because international cooperation is unlikely and only one-way pollution is considered (i.e., retaliation is not).

Due to the lack of a supranational authority with effective enforcement powers, international environmental externalities are not amenable to those national policy instruments yielding first-best internalisation solutions based on Pigovian taxation. An economy open to international capital movements faces indirect effects not only on its own national welfare but also on the final level of both national and international pollution levels; environmental and trade effects interact. However, a large open economy can manipulate the price of capital in other countries through its capital taxation policies at home and the weight of its economy on international capital markets.

In such a complex setting, Killinger first shows that the answer to the double dividend question depends on the concept used. There are two main definitions in the literature: the Goulder and the Pearce concepts. He shows that neither is totally adequate to address the issue. However, by comparing the use of both concepts, Killinger is able not only to clarify the debate but also to derive the conditions under which a double dividend can be expected. Even under the restrictive assumptions of his analysis, these conditions are non-trivial. An interesting and non-intuitive finding is that a capital-importing country is more likely to achieve a double-dividend than a capital-exporting country.

An outstanding feature of the book is the clarity and order with which each point is developed. There are introductions and conclusions to each section of each chapter, so that the reader is always reminded of what has been achieved and where one is headed. Only the concluding chapter lacks substance (two and a half pages) and perspective. This is an aspect the author

is aware of, having given this chapter the modest title of 'concluding remarks'. Nevertheless, a more complete summary of the key findings, and of the key assumptions upon which they rest would have been useful for the reader, especially for a novice.

The book contains four real chapters, and an introduction and a conclusion. The backbone of the book is Chapters 4 and 5. Chapter 4 is a preparatory chapter that examines the double-dividend in the national context. Its real function is to clarify the notion of a double-dividend by comparing the Goulder and Pearce concepts of a double dividend and by subsuming them into a more general model that is capable of expansion to the international context. More importantly, perhaps, this generalisation allows Killinger to derive precise conditions under which each of the two double-dividend concepts can be achieved. Armed with these findings Chapter 5 is then ready to take us to the heart of the problem, and to examine what additions or modifications need to be made to the restricted, national context of Chapter 4.

The analysis in Chapters 4 and 5 is largely motivated by a real piece of German policy advice, the so-called DIW Report issued in 1994. This report was in response to Germany's proposal at the 1992 Rio Summit for an energy tax, the proceeds of which would be redistributed to industry as reductions in employers' social security contributions and to households as capita lump sum payments. Chapter 2 is devoted to a critical analysis of this report; the shortcomings of which lay the foundations for Killinger's work. Chapter 3 then examines the theoretical background against which any improvements on previous analyses must be made.

Chapter 3 constitutes by itself an excellent review of the theoretical background. It opens by characterising the structure of the problem, based on the interplay between the nature of environmental externalities and the degree of cooperation between nations. Then it examines the conditions for, and efficiency of, internalising externalities in different national and international contexts, all of which are summarised in a key diagram. Killinger discusses in particular the relative merits of inducing international cooperation versus introducing unilateral environmental policies.

In format, the book is very structured and focused. Its core chapters (4 and 5) are analytical and, although standard in their analysis (marginal comparative statistics), they will appear tedious to non-mathematically orientated readers. On the other hand, Killinger is very clear on the assumptions he makes, and he discusses the relevance of his findings to policy makers given these assumptions. One restrictive assumption he does not highlight relates to uncertainty; his analysis remains deterministic.

The main value (but not the only value) of this book is in clarifying the double-dividend debate in a setting that is realistic for the countries involved.

His conclusions should not appear as purely academic, as he has the courage to face the analytical complexities of second-best theory resulting from a relaxation of excessively simplifying assumptions. His position as an in-house consultant with a major German bank has obviously made him sensitive to practical outcomes; yet his book stands out as a rigorous analysis in the purest neo-classical tradition.

STEVEN SCHILIZZI

The University of Western Australia

The Economics of World Wheat Markets, edited by J.M. Antle and V.H. Smith. Published by CABI Publishing, Oxford, UK, 1999, pp. xxii + 442, ISBN 0 8138 2789 2, £60.

This collection of 18 chapters and an Introduction by the Editors records a conference on the world wheat industry held at Montana State University in 1997. Despite delays in publication (and reviewing), the conference proceedings embodied in this book remain a useful summary of ongoing and more recent policy and empirical issues surrounding the development of the world wheat industry.

The book is organised in five parts (with the number of chapters in each part in brackets):

An Overview of Future Development of World Wheat Markets (6)

State Trading and Import Demand Stability in Major Importing Countries (2)

The GATT Process: Implications for World Wheat Exports (3)

Western Hemisphere Integration (2)

Implications of Domestic International Trade Policies and Markets for Wheat Producers in the USA (5).

It is not possible to discuss all 18 chapters in this book, nor would this reviewer want to if it were possible. Suffice to say that those few remaining Australian agricultural economists with a serious interest in commodity policy and marketing will find most of the book useful and interesting: most particularly, the information on the wheat industry in economies in transition by D. Gale Johnson, Rozelle, Huang Jikun, Goodwin and Grennes.

As is well known, the world wheat market is characterised by a small number of large exporters (including Australia) and numerous importers. Only 20 per cent of world wheat production is traded – although this is considerably higher than rice, the other major cereal staple, at five per cent. Consumption is stable and production variable due to weather influences in

all countries. Many countries aim to be self-sufficient for strategic/political reasons. This limits trade and adds to the instability of prices. In addition, many poor countries have poorly developed internal transport infrastructure. Like most commodities, the pattern of the grain trade is greatly influenced by transport costs and especially the gross differences between the costs of land and water transport.

For a century or more, the political economy of wheat and other grains in rich countries has been dominated by the adjustment problems for producers in the old world brought about by the expansion of production (and transport possibilities) in the new world. The usual response in rich countries has been protectionist, resulting in market access problems for efficient producers such as Australia. For poor countries, there are additional issues. Producers in these countries are concerned with access to the methods of grain production that have yielded such benefits in the developed world. Poor importing countries have to cope with unstable prices.

Issues concerning the balance of world supply and demand, stocks, long-term price trends and price stability are carefully explored in several contributions to this volume. Of particular interest is a chapter by D. Gale Johnson that elaborates on the successes of agriculture in the twentieth century in increasing output in developed countries. This chapter is sufficient reason for picking up the book with its succinct account of the economics of the wheat industry in several countries. Most of the things students need to know about agricultural development are set out in fewer than 20 pages. A few of the other chapters could reasonably be described as conference potboilers with an emphasis on technique rather than content.

Most people take home the message from Chicago that markets work and markets matter. Just as important a lesson is that policies matter. Johnson argues that the agricultural potential of sub-Saharan Africa has been underestimated because national policies have been adverse to the growth of agricultural output. The decline in per capita food production began after 1970 when the emphasis on taxation of agriculture to support industrialisation became the basis of national policies in much of that region.

Johnson and other contributors to the book (notably Goodwin and Grennes) have explored the reasons for the tardy recovery of Central and Eastern European agriculture from the excesses of collectivisation. Johnson explains that transition to a market economy was always going to be difficult because of earlier distortions to the agricultural economy, especially the price distortions related to the extreme subsidisation of livestock products. In contrast, agricultural output was able to grow rapidly in China with the abandonment of the commune system in the late 1970s. Johnson does not fall into the trap of some authors in this book (including the editors) of regarding falling real world wheat prices as a 'pessimistic scenario'.

There is very little reference to Australia in this book apart from an interesting account by Carter and Wilson of differences between Canada and Australia in the evolution of State grain trading. Despite the disappointment of the recent rejection by the Commonwealth Government of a most thorough National Competition Policy review of wheat marketing in Australia – especially with respect to the single desk/export monopoly of the Australian Wheat Board in its present incarnation – Australians can be thankful that progress in liberalisation of wheat and other grain markets has proceeded much faster than in Canada. Without doubt, Canada is the Jurassic Park of wheat marketing. While the Australian wheat industry is more or less ignored in this book, Australian research on the economics of the world wheat market is acknowledged (albeit without sufficient care to spell the names of Chris Alaouze and Henry Schapper correctly).

ALISTAIR S. WATSON
Freelance Economist,
Melbourne

The Skeptical Environmentalist: Measuring the Real State of the World, by Bjorn Lomborg. Published by Cambridge University Press, Cambridge, UK, 1991, pp. xxiv + 515, ISBN 0 521 80447 7 (hdbk), 0 521 01068 3 (pbk), \$156.95 (hdbk), \$59.95 (pbk).

This book has probably attracted more public attention than any other book on the world's environmental problems since *Limits to Growth* (Meadows *et al.* 1972). In reviews and critiques it has been lauded and lambasted. I will therefore consider two aspects: what it says, and what the public reaction to it has been.

The message of *The Skeptical Environmentalist* is almost the exact opposite to that of *Limits to Growth*. Lomborg writes that environmental advocates have painted a massively inaccurate picture of the overall state of the world's environment: that the impression of impending environmental disasters that they have tried to create is a gross exaggeration. For most of the headline environmental and resource issues, things are improving or have already improved, in some cases quite dramatically so. For other issues, things were never as bad as often claimed, or will not get as bad as often predicted. This is not to say that the state of the environment is necessarily good enough, but that by many criteria it is pretty good and getting better, and so we should not be panicked into excessive, ill-considered expenditures in order to avoid non-existent looming catastrophes.

Lomborg's conclusion is a surprise to many (and an outrage to some). However, it is backed up by a multitude of statistics drawn from what appear to be safe and conservative sources (e.g., FAO, UNEP, UNDP, WHO). He notes that his data sources are the same as those used by the environmentalists who make dire pronouncements. The difference is that he presents the information in broader contexts: a longer time scale (so that short-term fluctuations do not mislead us), a global spatial scale (so that the overall significance of issues can be seen) or a broader socio-economic context (so that the importance of environmental expenditures can be considered relative to other uses of scarce resources).

An important question is whether Lomborg is right. I am not able to judge the accuracy of the technical information contained in the book. Fortunately, I do not need to. It has been subjected to the most intense (and hostile) scrutiny imaginable. There are numerous critiques available, including a web site devoted to the task of debunking the book. In some cases, panels of invited scientists have reviewed it chapter by chapter. If there are any errors in the book, they would certainly have been highlighted. The results of the published reviews by scientists can be described in two parts: (a) a very strong negative verdict about the book from most of the invited scientists, and (b) a failure by these scientists to identify any specific errors of substance. They *have* found some minor errors, and expressed legitimate concerns about the strength of some conclusions, but the general thrust of the book stands up strongly. Ironically, the extreme level of scrutiny initiated by people who disavow Lomborg means that an impartial observer can more confidently conclude that, at least with regard to the raw information, the book is broadly sound.

The stark contrast between the evidence and the verdict reveals much about what is really going on. So does the choice of scientists on the panels, many of whom have been criticised in the book. So do the tactics they have adopted. Even in publications as august as *Scientific American*, the published critiques resort to nit-picking, quoting out of context, and gross misrepresentation. They appear determined to find fault, and only fault.

Most charitably, one might suppose that the scientists involved in writing these critiques are so upset by the potential funding consequences of its conclusions being taken seriously that their ability to judge the work impartially is impaired. But frankly, the whole backlash has all the hallmarks of a witch-hunt. Through it all, Lomborg has retained his dignity. One can only marvel at his resilience as he has dealt reasonably and patiently with the vitriol and hyperbole heaped against him.

So what about the book itself? Lomborg employs a variety of approaches in dealing with the different environmental issues. The first approach, and the least controversial, is to present official statistics or peer-reviewed scientific

data about the severity of problems, and to contrast these with dire warnings and predictions from environmental advocates. I expect that few will fail to be surprised by the optimism of the overall picture which emerges in relation to population, life expectancy, health, food supply, poverty, forests, energy, minerals, water, air pollution, water pollution and acid rain. The critics generally acknowledge that the information Lomborg presents on these issues is broadly correct, although they seem angry at him for presenting it, or at least for the interpretations he draws (which generally appear reasonable to me). Some of the more desperate critics have chided him for not saying anything new about these issues, but that seems only to strengthen his point.

Lomborg emphasises repeatedly that he is not saying that the problems are unimportant or fully resolved. He is merely saying that the situation is not nearly as bad as the public is led to believe, and that we need to understand this if we are to make sound decisions about priorities for policy and action. It seems so reasonable that one has almost to pinch oneself when reading some of the backlash.

The chapter on 'Our Chemical Fears' is particularly compelling. As in other parts of the book, Lomborg cites many alarmist statements by prominent commentators, in this case decrying the dramatic increase in cancer rates due to pesticides in the environment, in food and in water. Then he presents a multitude of evidence showing that there has been no such increase, and that the levels of cancer from these causes are very low indeed. I was particularly interested to read that the cancer risk from the most dangerous present-day pesticide-related intake in the USA (ethylenethiourea, ETU, a breakdown product of a fungicide) is 66 times smaller than that from three cups of coffee per day, and 2100 times smaller than 1.7 beers per day (the USA averages). The book is just packed with information like this. I found it interesting, entertaining and surprising from beginning to end.

The chapter on biodiversity and extinctions is probably the least convincing, because the evidence is harder to get and harder to interpret. Lomborg quotes dramatic levels of extinction claimed by some (up to 250 000 species lost per year) and points out the absence or weakness of evidence to support them. He argues that the available knowledge supports vastly smaller numbers. He does acknowledge that the data are likely to understate the reality, but makes a case that the extreme claims are unlikely to be realistic. Critics have taken issue with his case, but I found it difficult to assess their arguments (partly because they are so laden with abuse and other irrelevancies that one is disinclined to trust their objectivity).

The chapter on global warming takes quite a different approach. It is the only issue in the book addressed as an economist would approach it, asking whether the benefits of intervention would exceed the costs. Lomborg uses

the published projections of the UN's Intergovernmental Panel on Climate Change (IPCC). Based on the projections for the 40 scenarios used officially, he points out that a full implementation of the Kyoto protocol would have a negligible impact on global warming. The temperature that would be reached in 2094 under a business-as-usual scenario would instead be reached around 2100. I was surprised to learn this, and I think many people would be. Of course, there remains enormous uncertainty about what will *actually* happen, but the IPCC projections indicate that interventions of the scale of Kyoto will make little difference regardless of what does actually happen. Citing well known economist William Nordhaus, the author notes also that the cost of implementing Kyoto would exceed the *total* projected cost of global warming while reducing that cost only slightly. In other words, we would pay twice. Even allowing for possible wide error margins in the economic analysis, the chances that implementation of the Kyoto protocol could generate benefits in excess of costs look extremely low. This is outstandingly important information, which has caused me to reconsider my attitude to this issue. Lomborg makes the further point that the main beneficiaries of avoidance of global warming would be people in developing countries, but that the resources required to implement Kyoto could generate vastly greater benefits to these people much more directly and much sooner if deployed in other ways.

A response has been, yes, but Kyoto is only the beginning. We need much more intensive interventions to follow after Kyoto. Lomborg's rejoinder is that more intensive interventions would be correspondingly less desirable. It is possible that the global warming will be more damaging than allowed for by Nordhaus, but this is not supported by the officially sanctioned results of the best available models. One implication, if we are seriously interested in making good decisions about global warming, is that analysts need to focus more on estimating the probability of catastrophic outcomes, which is not currently their approach. Lomborg's reasonable conclusion is that, at least for now, instead of bearing the massive cost of Kyoto, we should dramatically increase investment in R&D to accelerate the development of economically-competitive renewable energy technologies.

I do have some reservations about the book. The conclusions reached sometimes seemed too sweeping for my comfort. It surely will not all be so simple or benign as the impression created by the book. There are many small, specific corrections and caveats that have been pointed out by commentators (both friendly and unfriendly). The global perspective on issues obscures regional and local environmental issues, which may still be very important. The written English sometimes shows its Danish origins. It is true that the book may erode some of the hard won gains in political standing which the environment has made in recent decades. It will no doubt

be exploited by those who are antagonistic to funding for environmental protection. However, if members of the environmental movement took it seriously, it could help them to enhance their credibility and better prioritise its allocation of effort to different issues. Furthermore, most economists will appreciate Lomborg's attempt to look at the big picture, promote prioritisation of scarce resources, and evaluate extravagant claims made in support of particular policies.

The Skeptical Environmentalist is a remarkable achievement. To have encompassed so much information about so many complex issues is breathtaking and you cannot fault the author for lack of ambition. He concludes the book with the hope that, 'as far as the Western world is concerned, ... this book can lead to an appreciable change in attitude to environmental problems.' (p. 351) I recommend it as essential reading for any open-minded person with an interest in the environment. It will also prove an invaluable source of information and discussion in university courses covering scientific, ethical, economic or political aspects of environmental or resource policy.

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DAVID J. PANNELL

The University of Western Australia

Communities and the Environment: Ethnicity, Gender, and the State in Community-based Conservation, edited by Arun Agrawal and Clark C. Gibson. Published by Rutgers University Press, New Brunswick, USA, 2001, pp. xiv + 205, ISBN 0 8135 2913 1 (hdbk), 0 8135 2914 x (pbk), US\$60 (hdbk), US\$23 (pbk).

This book seeks to shift policy deliberations regarding community-based governance of natural resources beyond the suspension of reason that too often accompanies the mere mention of community. Enthusiasm among policy makers for community participation in natural resource management has followed closely in the footsteps of sustainable development. Indeed, the term 'community' has well and truly joined the required vocabulary of most development, resource and environmental economists. Widespread advocacy of community participation in governance has been especially bewildering for neoclassical economists. The idea of devolving important functions of

governance to community, or common property systems of organisation tends to ring alarm bells when one's logic predicts that such systems of shared responsibility will inevitably fail as community members succumb to the delights of a free ride.

Nevertheless, there is now an impressive body of common property scholarship consistent with the proposition that communities can, given supportive conditions, effectively perform certain governance functions. Much of this scholarship draws from the framework of rational choice theory underpinning the neoclassical model, albeit from new institutionalist versions of this framework that acknowledge the influence of culture, including community norms, on human reasoning. The most influential example of this work has probably been Elinor Ostrom's (1990) book *Governing the Commons*.

The book reviewed here is a response to concerns among common property scholars at how frequently their findings have been interpreted simplistically or opportunistically by governments and international agencies when justifying devolution of responsibilities to community-based regimes. Due to the loss of faith since the 1970s in the capacity of state agencies to achieve conservation goals, as well as widespread pressures to reduce government expenditures, the evidence that successful community-based conservation is sometimes possible has too often been misread as grounds for wholesale devolution of conservation responsibilities to communities. In her foreword to this book, Ostrom criticises this trend as yet another instance of 'too many wild chases after the chimera of the ideal way to achieve conservation'.

In their Introduction, the editors (both political scientists) explain that the aim of the book is to address these concerns by looking beyond the mythic notion of community as a unified, organic whole. They seek to persuade readers that each community needs to be understood as a complex entity containing individuals differentiated along various dimensions including status, power and intentions. They will find little disagreement from readers of this journal with their argument that: 'A more acute understanding of community in conservation can be founded only by understanding that actors within communities seek their own interests in conservation programs, and that these interests may change as new opportunities emerge'.

The remainder of the book consists of six chapters by different authors, each presenting insights from a case study, as well as a concluding chapter. The cases include: forest management in the Philippines; water management in South Asia; irrigation management in Morocco; management of land inheritance in Kenya; salmon fishery co-management by the state and American Indian tribes; and development of hillside agriculture in Sulawesi, Indonesia. The disciplinary backgrounds of the authors include anthropology, sociology, human ecology and political science.

Despite the absence of any economists among the authors, the material presented is often richly suggestive of hypotheses that might fruitfully be explored in economic analyses of community-based conservation programs. In Chapter 2, for instance, Ruth Meinzen-Dick and Margaret Zwarteveen explain low participation by women in village-level water management programs using a cost-benefit framework. They suggest that the opportunity costs of participation by women often exceed those for men because women's workloads are already higher and because participation opportunities are often located and scheduled in ways that suit men better than women. Furthermore, it is reasoned that in many cases the benefits men perceive from participation will be greater to the extent that they value more highly the prestige coming from this role.

A key insight from earlier common property scholarship is that voluntary cooperation by individuals with a system of rules tends to increase the greater their trust that the system accounts fairly for their interests. Indeed, a common justification for devolving conservation responsibilities to communities is that this enables more inclusive participation of community members in the design and implementation of the rules affecting them, thus leading to broader acceptance of the rules as fair and, consequently, a more widespread propensity to comply with them voluntarily.

As the chapters in this book make clear, however, devolution does not necessarily result in community participation that is more inclusive. If rule-setting rights are simply devolved to existing community-based organisations (e.g., local water associations), it should come as no surprise that these rights will be used to consolidate the positions of the elites already represented by those organisations. Instead of leading a greater proportion of community members to perceive the rules affecting them as fair, therefore, Sara Singleton observes astutely in Chapter 5 (concerned with the 'Byzantine world of piscatorial politics') that 'the substantive content of the merging institutions is likely to favour the powerful ..., while shirking, foot-dragging, and other "weapons of the weak" will be deployed by the less powerful in an effort to shape the process by which formal rules are deployed in local practice'.

A further useful contribution of the book is to challenge the myth that communities are naturally-evolved entities, and so remain uncontaminated by the flaws of the state. In Chapter 6, Tania Murray Li highlights how the state usually has had a strong hand in how communities are formed and maintained, for instance by fixing administrative boundaries. Through her case study, moreover, she illustrates how prospective gains or losses from state interventions can crystallise a sense of community among people that hitherto had seen themselves as accidental fellow travellers. Melanie Hughes

McDermott demonstrates through her case study in Chapter 1 how the definition of community the state adopts for funding community-based conservation can lead populations not matching this definition to reinvent themselves, at least officially, to reap the advantages from doing so. In Chapter 4, Bettina Ng'weno highlights the related phenomenon of individuals, who actually are members of multiple communities (e.g., distinguished by ethnicity, industry, geography or gender), publicly affiliating themselves with different communities at different times according to how their own interests are best served.

Given the massive allocation of conservation resources now being channeled through community-based programs in many countries including Australia and New Zealand, and the likelihood that programs of this ilk are here to stay, a valuable role for economists with new institutionalist leanings lies ahead in undertaking the rigorous empirical analysis required to discover how these programs might be reformulated in specific contexts to deliver more of the on-ground conservation gains originally expected from them. This balanced book contains many valuable insights for those prepared to take on the challenge it poses.

Reference

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GRAHAM MARSHALL
University of New England

A Dictionary of Environmental Economics, Science and Policy, by R. Quentin Grafton, Linwood H. Pendleton and Harry W. Nelson. Published by Edward Elgar Publishing, Cheltenham, UK, 2001, pp. lii + 362, ISBN 1 84064 126 6, £75.

The challenge of sustainable development depends on a constant infusion of knowledge from scientific research, social interaction, market participation and individual pursuit. For the scholar, student or the plain inquisitive, seeking this knowledge often involves venturing into unfamiliar territory and attempting to conceive complex issues described in discipline-specific vocabulary. This *Dictionary* offers a much needed transdisciplinary reference presenting clear and concise meanings for disciplinary jargon and the specialised uses of certain familiar terms in the context of environmental economics, resource sciences and policy analysis.

In many respects the authors offer much more than an authoritative phrase book. Its well thought-out inclusion of three primers and seven informative appendices make it an equally useful supplementary text for a course in environmental sciences. While these three primers are essential reading for the non-economist, they inadvertently provide an important evolutionary perspective on how the environment arrived at its current position in the public policy agenda. They also echo the growing perception that economic activity is embedded in both social and environmental systems, and a holistic approach to science-based understanding is needed to attain efficient environmental outcomes.

The first primer – ‘Economics for the environment’ – introduces the economic problem of resource allocation, following the concepts of welfare economics and marginal analysis. The overview then leads to market equilibrium and market failure, and progresses to non-market values and total economic value, including a succinct coverage of the components of non-market values and the issues in measuring them following empirical procedures. The primer concludes with a section on ‘Sustainability’, which articulates the issues of intertemporal scarcity of resources and alludes to the concept that ‘careful consideration of resource limits on models of development’ has helped to gain an environmental understanding that is ‘increasingly realistic, more thorough, and more in tune with the ways in which economics, human society and the environment are linked’. I agree with their optimism; certainly, the book provides useful insights on the need to do better.

The linkages between markets, society and environments are further explored in the second primer on ‘International Environmental Problems’. Here the authors touch upon the transboundary nature of environmental issues affecting the global commons and the role of international coordination as a solution for minimising the trade-offs between private and public benefits. The subsequent overview on ‘International Agreements’ and ‘Trade and the Environment’ serves to outline various examples of international coordination and the potential of such activities to alleviate global environmental problems through measures that improve people’s welfare.

A systems perspective to modelling is championed in the third primer, ‘Environmental Systems, Dynamics and Modelling’. This insightful introduction to modelling as a basis for scientific research on the environment cleverly presents a series of ecological concepts that underpin the ecosystems approach to environmental modelling and analysis. The section on ‘Modelling and Dynamics’ is a must-read for the novice modeller for its comprehensive coverage of principles and practices of modelling, all within the space of three pages.

The authors make the following disclaimer: ‘Clearly, neither this primer nor this dictionary can do justice to the myriad of topics that encompass the

many disciplines needed to understand the world around us'. Nevertheless, the book clearly meets its objective in providing 'a ready-reference that will bridge environmental disciplines and help ... (us) ... better understand the world we share'.

The dictionary, with more than 3,300 words, and with ample further reading and references where required, is very comprehensive. A quick reading through the 309 pages proves that everything you would expect to find is there, and it is difficult to disagree with any of the definitions. If I were to state one very slight deficiency it is that geography terms are not as well covered as those for ecology: Geographic Information Systems (GIS), in particular, play an important role in helping to understand the spatial dimension of environmental systems.

Discovering new terms is one of the pleasures of reviewing a dictionary. I found many new terms ranging from 'abyssal' in marine science, and 'amensalism' in ecology, to 'strange attractor' in chaos theory – and for that matter 'ecofeminism', the meaning of which you can probably guess. I am sure your own discoveries will prove equally rewarding. Then I came across 'selfish gene' – one that relates to 'genetically inheritable altruistic traits in closely related individuals'. Sadly, in this case the authors offer a rather narrow view of the term introduced by Richard Dawkins' 1976 best seller *Selfish Gene*. Refer to the expanded second edition for an enthralling read and valuable insights in social biology (Dawkins 1989).

Following heightened concern about environmental problems in recent years, the environment has risen to the forefront of public policy agenda. Research, education and training activities addressing environmental issues have proliferated as a result. Much of this effort transcends disciplinary boundaries, and it is commonplace to find both the emergence of sub-disciplines concerned with the environment and a concerted effort to promote interdisciplinary work that integrate social and natural sciences in searching for workable solutions to complex issues. Economists, scientists and other practitioners who cooperate in such ventures will find this book an invaluable aide as it facilitates cross-disciplinary understanding by clarifying the meanings of many words used commonly within disciplines.

As the environmental and resource economics profession expands its horizons, the significance of many of the 'scientific' terms will become clearer, along with an increased appreciation of cross-disciplinary collaboration. Environmental economics will then be seen as more encompassing, beyond one that 'focuses on the valuation and management of environmental quality' (p. 90) to one that encourages communities to seek a more complementary relationship between the economy and the environment by helping to understand the true costs of economic activity and identifying incentives for minimising costs to enhance net social benefits.

The book is written for a wider audience, but is most beneficial to those pursuing environmental issues from an economic perspective aided by natural sciences. In this respect, it is well suited for economists, scientists, policy-makers and administrators dealing with natural resource management. Students of environmental sciences would find it a useful reference guide, and it will be of value to general readers who want an economic overview of environmental issues.

Reference

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THILAK MALLAWAARACHCHI
James Cook University, Townsville