Environmental Economics


There has recently been an explosion of books in the field of environmental economics similar to that of the 1970s. Amongst these volumes are textbooks, original treatises and anthologies or readers. Both of the books under review fall into the last category. The Earthscan reader is a collection of 28 papers mostly by well known environmental economists, with an overview chapter by the editors. Tisdell’s book is a collection of his own work and therefore verges on the original. Both books are split into five parts and include amongst these environmental valuation, sustainable development and global environmental issues, although the contents are quite different.

In Tisdell there are 16 chapters: one introductory, three theoretical on externalities and pollution control, four on project appraisal, and eight which are broadly concerned with sustainable development. Although the last part of the book is entitled ‘Environmental policies and global conservation’ it is mainly concerned with a critical appraisal of the World Conservation Strategy [IUCN, 1980] and a less critical one of its follow-up [IUCN-UNEP-WWF, 1991]. Amongst the eight sustainability chapters is one misfit (Chapter 12) which describes ‘techniques which decline in effectiveness with use’ (p. 177). This is extremely abstract and fails to integrate with the rest of the text.

The reason I would classify Tisdell’s work as only bordering on the original is because of the extent to which interesting issues are analysed and the attention they are given. For example, on the theoretical side, non-convexities are raised as a serious problem for simple pollution control models (pp. 55–58) but given only four pages mostly filled with diagrams. This only allows a brief explanation of an issue which deserves more serious attention. Similarly, when discussing the implications of adopting sustainability the call is made for an ‘evolutionary’ approach to policy (pp. 113 and 116) but little attention is given as to how this is to be made operational. Another example concerns the need to trade off the survival of different species when trying to enforce a maximum sustainable yield for all. While the discussion is clear and points well made, the ethical problems are left as questions and the argument prematurely curtailed (p. 214).

On a more positive note, the section on project appraisal and cost-benefit analysis contains a particularly good discussion of the relationship between environmental spill-overs and the legal approach to such externalities. This raises many issues concerning compensation for environmental damages and the limits to legal solutions. There are also interesting suggestions in this section, such as the argument in favour of ‘rules of thumb’ when conducting cost-benefit analysis rather than relying on theoretically exact but expensive marginal analysis. However, there are also some omissions. On raising valuation issues in a project
appraisal context the only method discussed is the contingent valuation method (p. 102), and the problems of valuation techniques are not linked to the call later on for 'correct' valuation (p. 240), whatever that might be.

This last point also raises the lack of in-depth critical analysis of underlying assumptions. While Tisdell is certainly critical of the way environmental economics is sometimes conducted and while he raises many important questions, these same questions are left hanging in the air. A more interdisciplinary approach would help – an approach in fact repeatedly called for by Tisdell who describes ecological economics as leading in this direction, but the call needs to be extended to philosophy as well as the natural sciences. Rawls' theory of justice does appear (although Rawls is attributed with an inter-generational ethic when his actual rules concerned intra-generational ethics), but rather than an analysis of the problems the reader is left with unanswered questions (pp. 132–134).

Tisdell can be credited with identifying many important issues other environmental economists have tended to ignore, but rough edges remain. The reader would be aided by knowing at the start of each chapter the original source, which might explain some of the rather dated references. The integration of the theoretical section with applications is initially achieved by tacking examples on to the ends of the chapters. Although the theory section is matched by more applied chapters later (on for example, the externality theory in Chapters 2 and 3 is matched by material in Chapter 6), this does result in some repetition. There is also repetition elsewhere but mainly in the last two parts of the book, where the principal concern is for sustainability and the World Conservation Strategy: for example, information on the Chicago school (pp. 85 and 192), Leopold's land ethic (pp. 135 and 198), the aims of the World Conservation Strategy (pp. 164, 209 and 226), and the work of Conway (pp. 125, 143–147, 166–167). Thus several areas could have been covered more concisely and the number of chapters on sustainability issues reduced.

Despite these reservations the book does contain many useful insights concerning environmental economics and policy. Concern is shown for the application of conservation techniques rather than idealised theoretical instruments. Attention is paid to the problems of less developed countries and how unsustainable practices can seem the only option once a certain development path is taken. The maintenance of biodiversity is recognised as of central importance to sustainability (eg., pp. 190 and 194). Problems with the definition of sustainability are specified and the concept is linked well to the old 'limits to growth' and materials balance theories. Ecological economics is signified as an important new development of environmental economics.

Overall, Tisdell's book is useful and thought provoking. The important issues raised should encourage readers to follow up their interest, which makes it appropriate for teaching purposes where students can be guided to further reading. The theoretical section does adopt a mathematical approach (elementary calculus) which may be difficult for non-economists, despite the accompanying diagrams. Tisdell also uses economic terminology which either goes unexplained or only briefly so, and in the early chapters tends to assume knowledge of welfare economics, for example, Pareto optimality and Kaldor-Hicks potential compensation (which is adopted with little criticism). However, most of the book is written in an easily comprehensible and accessible style.

The Earthscan Reader is a collection of papers most of which will be familiar to environmental economists. The editors have deliberately excluded resource
economics, although Hardin’s tragedy of the commons is present. The weight of attention is shown by the number of papers on each topic: valuation issues 13 papers, two on limits to growth (Boulding and Daly), two on property rights (Dales and Hardin), four on pollution control, four on sustainability and three on global issues.

The decision to try to cover several areas tends to detract from the book’s success because only a few examples of the main articles can be given. The more classic papers in the non-valuation sections are widely available and the sections seem rather thin. For example, as the review chapter makes clear, there are many articles which a comprehensive guide to the literature would provide on environmental protection (taxes, standards, pollution permits) alone. As a result the four papers offered hardly scratch the surface. Given that a range of topics is going to be covered, a general introduction explaining the interrelationships of different subjects should have been included in addition to the guide concerned with the papers actually chosen. The current review chapter is generally a good guide to the importance of the papers presented but would have been better split by topic area and placed before each of the five parts. While an overview of valuation issues (by Markandya) is included, as a separate chapter, for some reason this appears halfway through the valuation section.

As the balance of papers shows, the main concern of the editors was with environmental valuation, which they view as the most exciting area (p. 9). The papers present are well chosen to represent the main valuation methods and the development of option price/value. These include examples of the main techniques: contingent valuation, travel cost, hedonic pricing, and production function approaches. In the last case an agricultural example (for examples, Adams, Crocker and Thanavibuchai, 1982) might have been included. As these techniques have largely been developed in the United States there is a strong representation of American authors, especially those of the Wyoming school. Those interested in economic approaches to valuation, wanting a handy collection of key papers, may find this section alone justifies purchasing the Reader.

Given the obvious importance the editors have attributed to environmental valuation the Reader could have been improved by being devoted to valuation alone. This would have allowed a more critical approach which should in any case have been taken by dropping some of the more mainstream papers. The main drawback of the reader in the valuation area is the uncritical acceptance of the neoclassical approach. One of the most interesting areas of the valuation literature is where economics merges with other disciplines such as politics, psychology and philosophy. In this reader there are no examples of the strong criticisms levelled at the utilitarian approach, such as the work by Sagoff (1981 and 1988). Little attention is paid to the problems which the current economic view of ‘total economic value’ creates, such as Brennan (1992) has signified. There are plenty of good articles to chose from in this area in journals such as Environmental Ethics and Environmental Values. Students of environmental economics must open their eyes to the breadth of issues they are facing, rather than following the conventional reductionist and blinkered view. The Reader fails to encourage this interdisciplinary perspective.

The best audience for these books would be intermediate to advanced undergraduates and postgraduates unfamiliar with environmental economics. In both books there are many chapters which are easily accessible to the general reader.
However, readers with a good knowledge of economics to the intermediate undergraduate level will gain most.

CLIVE L. SPASH
University of Stirling

REFERENCES


