

democracy, altogether. But sometimes (mostly Western) neo-liberals welcome and even embrace the exotic and the 'indigenized non-west' as long as the latter remains harmless and compliant. Neo-liberal versions of post-modernism have neatly swept differences of power, wealth, class and race under the carpet of deconstruction. Thus also the poor of the Third World can become sources of amusement for the global elite. It is in this context that Bharucha pleads for the 'cognition of the social and economic predicament of underprivileged communities and indigenous peoples in the Third World [sic], without which the recognition of their cultural identity and heritage becomes somewhat redundant' (pp. 204-5).

The mixing of politics and culture in this book is perhaps its only serious weakness. The title announces politics. The book itself contains cultural analyses and social observations, no genuine politics. Perhaps Bharucha has followed the post-modernistic fashion to call everything politics. But real politics, especially of the oppositional type with which Bharucha would be in favour, should minimally entail solid moral leadership, a will to radical change, egalitarian socio-economic ideals, a radical democratic temperament, extraordinary organisational talent and lastly a mass following. But all this seems to have gone out of fashion. The voice of protest in Bharucha's book sounds genuine enough and should be listened to, even if the voice occasionally suffers from post-modernese hoarseness.

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Environmental Economics, Edited by Ulaganathan Sankar, Oxford University Press, New Delhi, 2001. Rs. 595.00

The rapid depletion and degradation of renewable and non-renewable resources coupled with increasing levels of air, water and soil pollution

threatening human welfare has resulted in a widespread concern for protecting and preserving the environment. This has resulted in the rapid growth of **Environmental Economics**, a branch in economics that uses the ideas and tools developed in other branches to understand the impact of human activities on the environment, impute a value on different aspects of it and design efficient policy instruments to attain sustainable growth.

Prof. Ulaganathan Sankar's book is part of a series of readers in Economics, which is a companion to the series on Themes in Economics, edited by Kaushik Basu and Prabhat Patnaik aimed at benefiting scholars in developing countries. It covers a number of seminal articles in the area of Environmental Economics, which have stood the test of time. As a compilation of classic articles covering the most notable topics in this area from a wide variety of journals for an interested post graduate student, the book meets its objective. The annotated bibliography at the end of the book is a commendable effort at providing a guideline to locate relevant references. A wide-ranging selection of articles has been compiled, with the introduction and final chapter on Environmental Policy linking them together, making coherent reading. This book is not aimed to be one which gives the reader an up-to-date idea of research in environmental economics; most of the articles in the book are dated, and published as long ago as 1960. The book attempts to give the reader an idea of how the major concepts in the field developed and what they are and it is a good starting point for the scholar who can appreciate the classic articles, still referred to in current studies.

The major topics explored include externalities, depletion of non-renewable resources, degradation of the commons, valuation techniques, sustainability and interaction of the process of development with the environment. The section on externalities has the classic

article on Coasean bargaining by Ronald Coase, which looks at the reciprocal nature of externalities and introduces the concept of well-defined property rights as a means of solving the problems associated with externalities. Coase contends that an optimum level of production (and pollution) can be reached, if either the polluter or the pollutee's property rights are well defined, and recognises the caveat of transaction cost in his argument. This is followed by another classic article by Baumol and Oates, which justifies Coasean bargaining as a better alternative to Pigou's approach of internalising externalities by imposing taxes by a more rigorous treatment using a general equilibrium model of a perfectly competitive economy with externalities. While the Pigouvian approach of taxation has not been included as a separate article, Sankar discusses this aspect in considerable detail in his introductory chapter and in a section on economic instruments in his conclusion. Sufficient references have also been provided as a starting point for the interested reader.

Hotelling's comprehensive analysis on the economics of exhaustible resources, and an article reviewing developments in this field for 50 years since Hotelling, concludes that the questions raised by Hotelling and his model are still the pillars of research in this area. The Hotelling rule that the price of an exhaustible resource must grow at the rate of interest, both along an efficient extraction path and in a competitive resource industry equilibrium still holds. However, the review article on developments in the last 50 years says little about the literature on rate of interest for discounting of future values, although Hotelling had anticipated that this would be different from the interest rate for private valuation. A discussion on the depletion of renewable resources, and how to derive optimal consumption for such resources would have been useful so that a comparison with Hotelling's approach for non-renewable resources could be made.

Property right issues have been dealt with next as they apply to common pool resources. The first article on Tragedy of the Commons by Hardin links the issue to that of over-population and discusses the difficulty in using legislation as a way to deal with degradation. The article raises more questions than answers, but is an excellent introduction to the problem of common property resources (CPR). The next article, by Elinor Ostrom, discusses how a group of principals who are in an independent situation can organise themselves to obtain continuing joint benefits faced with temptations to act opportunistically. The three problems identified by Ostrom include the supply of a new set of institutions to deal with CPR situations, commitment and mutual monitoring. The commonly preferred game theoretic framework for such an analysis is introduced, but due to its weaknesses an alternative framework for analysis is proposed. Although both the articles are comprehensive, no light is thrown on the differences in management of global and local commons, which could have been covered in the introductory chapter.

The section on Valuation covers, in brief, several techniques of economic valuation and stresses on the contingent valuation method. Part of the survey article by Cropper and Oates from the *Journal of Economic Literature* has been included in this section along with the famous article on contingent valuation by Haneman. Evolution of valuation techniques, methodology involved for each approach and their applications are discussed in considerable detail, making the readings very useful. The economic theory of non-use values, reasons for revealed preference methods being inapplicable for non use values and means to improve the reliability of contingent valuation based methods are discussed by Haneman. However, both the articles are written from a developed country perspective, which explains the stress on the contingent valuation method as a measure of non-use values. The importance of awareness of the problem at hand before

conducting a contingent valuation based study is almost sidelined with only a small mention about it by Cropper and Oates in the chapter on Benefits and Costs. Lack of environmental awareness being a major problem in developing countries, this issue should have been highlighted somewhere in the book, since it addresses audiences from developing countries. Another much debated aspect of valuation and project appraisal, the choice of a social rate of time preference has been missed out. Also, newer, more refined approaches to contingent valuation such as choice modelling are not covered.

Solow's famous lecture on sustainability conveys the difficulty in defining a "vague" concept like sustainability, interpretations of which vary depending on what perspective it is looked at. He gives a clear-cut economist's definition, contrasting it with the UNESCO's definition, and proceeds to explain the paradoxes associated with intertemporal distributional equity and distributional equity across classes of society at present. The implications of incorporating sustainability concerns in policy are also highlighted. Environmental Accounting covers methodologies developed for a System of Integrated Environment and Economic Accounting by the UN, and is replete with cross-references to the original handbook for further consultation. This chapter will be enormous benefit to policy makers, who look for such an operational approach rather than a theoretical approach.

The importance of the environment resource base while considering the productive activities of rural communities, which forms the majority of the population, in developing countries has been stressed by Partha Dasgupta in the section on Development and the Environment. The chapter also touches upon environmental shadow prices, project appraisal, gender related issues and market failure, and is perhaps the most comprehensive article covering macroeconomic aspects in the reader. Considering the immense interest worldwide in

issues such as global warming, the introduction of the Economics of the greenhouse Effect as a separate chapter in the reader is apt. Nordhaus, in his article, gives a good idea on the rationale behind economic models and their operational aspects with reference to global climate change, as well as how the results obtained are used for policy making. However, the article is really from a western perspective and the reader should bear that in mind.

The concluding section by the editor first discusses the evolution of environmental policy in India, given global developments on environmental concern, followed by issues in designing market based instruments and suggests a plan to move away from command and control type instruments to market based instruments for India. Finally, global issues like the Montreal protocol, Convention on Climate Change, Bio-diversity, and linkage of trade with environment are introduced from an Indian perspective. Although it is not possible to cover all issues related to environmental economics in one book, some topics like intellectual property rights, environmental risk, moral hazard and global environmental institutions (the case for a world environmental organisation) are conspicuous by their absence. Econometric applications, which are central to valuation studies, an active area of research of environmental economists, are also not touched upon at all in the reader. Perhaps, the annotated bibliography could contain references on these areas, which could not be included due to some constraints to make the book more comprehensive.

To conclude, this reader is a rich collection of articles and will serve as a useful starting point for any postgraduate student. Professor Sankar is reputed as being a very thorough economist in academic circles and his choice of articles for this book as well as the introductory and concluding chapters written by him not only do justice to his reputation, but enhance it further. However, more careful proof

reading, especially in the introductory chapter, is desirable in subsequent reprints of the book to avoid distractions to the reader like missing articles, incorrect variables in equations and axis labels in graphical displays.

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