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Book reviews

Economic Theory for Environmentalists, J. Goudy and S. O'Hara, St. Lucie Press, Delray Beach, PL, 1995, $39.95, 192pp. ISBN: 1-884015-00-X

This book outlines (and explains) complex economic concepts in a fashion understandable by the lay person. Because the foundation of neoclassic economic theory continue to form the basis for policy decisions regarding the environment, the authors focus on clarifying neoclassical thinking as well as analyzing the effect this thinking has had on environmental policy decisions.

Then, they apply the theory to a real-world environmental problem – that of nitrate pollution of groundwater, but that application is not without problems, as illustrated by this paragraph from their summary chapter:

"The groundwater pollution example discussed in this chapter illustrates the daunting task of assessing externalities. Market failures resulting from the externalities of production are not easily measured or rectified. Even the task of determining least cost alternatives to achieve an externally set pollution standard is a considerable challenge. This challenge starts with assessing the cause and effect of pollution, continues with the difficulty in evaluating the marginal costs and benefits of pollution determined by current use values, and ends with the challenge of including future and nonhuman use alternatives. In our example, the valuation process was further complicated by the existence of intervention failure. Intervention failure was the result of price policies in the agricultural sector that were conceived as income support, but which increased production intensities and thus exacerbate negative externalities. This shows that in order to determine successful policies to reduce emissions, it is important that cooperation and coordination between commonly separate disciplines and agencies take place. The example of management alternatives that reduce emissions and increase the efficiency of input use also shows that externalities are not simply a public policy concern, but a management concern as well. In order to allocate resources sensibly, we need to include emission considerations in the production process itself instead of viewing them as external to economic valuation models."

The final chapter (No. 9) discusses new directions for economics, the economy and the environmental industry with the following discussion of new economic models:

"A more ambitions but perhaps even more pressing need is to develop theoretical models that show the dynamic relationship between human activity and the environment."

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Although this book appears to be written for the layman (to understand economics) it really contributes, I feel, little to the environmental field (at least from the perspective of an environmental engineer).

G.F. Bennett

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Zero Pollution for Industry: Waste Minimization Through Industrial Complexes, N.L. Nemerow, Wiley, New York, 1995, $54.95, 217 pp. ISBN: 0-471-12164-9.

In the preface, Nemerow begins with the following statement: "After more than 50 years of active participation in all aspects of the industrial waste treatment field, I have concluded that governmental regulations alone will not alleviate the environmental damage caused by industrial wastes. Some consideration must be given to the economic consequences of these waste discharges."

That admonition from a respected contributor to the environmental literature must be carefully considered. Nemerow has written several books (I counted at least five in this chapter's reference footnotes) and many more papers, generally on the environmental impact of discharges (*Scientific Stream Pollution Analysis*, McGraw-Hill, New York, 1974) or industrial wastewater treatment (*Liquid Wastes of Industry – Theories, Practice and Treatment*, Addison Wesley, London, 1971). This new book goes beyond treatment to the heart of the problems.

In the first chapter, Nemerow outlines the rationale for his book: achieving a sustainable environment by minimizing use of environmental resources by striving for zero pollution. There are three general methods to attain zero pollution, according to the author, who presents them in order of probable acceptance by industry:

1. Recovery and reuse within the same plant
2. Recovery and sale of wastes to other manufacturers
3. Bringing the producer and (waste) user together in one industrial complex

However, costs to industry are a key component of acceptance of the "new order". Thus, Nemerow states:"...before we begin any program involving the reduction of wastes to a minimum, we must understand the overall economics of pollution. For, if it were not for the cost involved, there would be no resistance by industry to provide pollution control."

That statement is followed by Chapter 2, entitled "Economics of Zero Pollution". Both costs and benefits (including general environmental benefits) are discussed.

The first step in zero discharge is waste minimization. How to accomplish this goal by reuse and recovery is discussed in Chapter 3. Next, waste minimization by recovery and external sales of products is covered (Chapter 4).Chapter 5 describes in detail the system of environmentally balanced industrial complexes. Environmentally balanced industrial complexes are simply a selective collection of compatible industrial plants located together in one area (complex) to minimize both environmental impact and industrial production costs.