



Kadekodi G K (ed.). 2004. **Environmental economics in practice: case studies from India**
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In the early 1990s, I was an economics student at the Jawaharlal Nehru University, interested in the environmental issues. I remember how difficult it was to find literature on the environmental economics theory, leave alone applications in India. Subsequently, there has been a fair amount of research activity in this field in India. This book records some of that work by leading scholars.

In law and business, case studies reign supreme as pedagogical devices. Given that the environmental economics draws on a number of disciplines and ideas, case studies give the reader a concrete sense of how an analysis of an environmental issue is carried out. They enable the drawing out of lessons and generalizations. Prof. Kadekodi has carefully compiled a number of case studies in this volume. His introduction helps us see how the varied Indian case studies relate to the standard environmental economics textbooks. There is a particularly useful table in the introduction showing the environmental theme, the branch of economic theory drawn on, statistical and economic tools used, and comments related to each case study.

The book covers pollution – air, solid waste, and water – and also resources like forests and national parks. A variety of methods and tools are used in the case studies: econometrics, valuation, stakeholder analysis, and environmental impact assessment. It is rooted

in the reality of India, hence, the environmental economics of the household and the associated health burden is not neglected—the chapter by Hughes, Meghan, and Lvovsky deals with the health effects of indoor air pollution, and water and sanitation. They show that interventions to improve the household environment with respect to water and sanitation, and indoor air pollution are highly cost-effective.

Environmental economics at its best is multidisciplinary as seen in Prof. Sankar's detailed study of the pollution problem in tanneries. The economics is based on a sound understanding of the biophysical system and the whole tannery production process is explained in detail. The costs of pollution abatement are calculated and a number of measures to make the common effluent treatment plants successful are suggested in the paper.

Solving the environmental issues involves bringing together different stakeholders. In the joint forest management study, stakeholder analysis (in this context, including villagers, women, panchayat, and forest department) is explained. Stakeholder analysis considers the key stakeholders and what they could lose or gain from a programme or situation. The different perceptions of stakeholders are brought out in a novel valuation method in Prof. Chopra's paper *Economic valuation of biodiversity*:

the case of Keoladeo National Park. Different stakeholders have different priorities and enjoy different types of values from natural resource stocks. However, there was a fair degree of agreement with respect to the ecological function value and livelihood value in the perceptions of diverse groups.

Scientists, tourists, and local villagers and non-users, all gave a high ranking to these uses. Prof. Murty's paper explores both, fiscal and institutional approaches to pollution abatement. Informal regulation by the local communities is important when formal regulation is weak or absent. On the technological side, there is a payoff to collective action—there are economies of scale in the common effluent treatment plants. It is the institutional aspect that is especially interesting and somewhat different from the textbook treatment of pollution.

Decision-makers often want unambiguous inputs that can aid them. Dr Ram Babu has written a paper in this book titled *Environmental impact assessment process in India and air quality management.* Environmental impact analyses often, are rich in detail but the information may overload the policy-maker. Cost–benefit analysis can be seen as a framework for arranging information, drawing on the environmental impact analyses. The cost–benefit analysis and valuation help us overcome the issue of comparing apples and oranges. Valuation of air pollution can provide empirical evidence of how the human well-being is affected by the environment. Prof. Jyoti Parikh shows us how the human health effects of air pollution were valued in Mumbai. A distinguishing feature of the analysis is the study of distributional aspect of air pollution. Slum-dwellers are the

worst affected group. The cost–benefit analyses of a plant to convert waste to wealth in Lucknow, and of social forestry illustrate the choices and calculations of such an analysis. These two cases illustrate that investments in the environmental improvement could have high social returns.

Sustainable development is a phrase that has been adopted by many. Several people however, think it is too vague a term. How might it be measured? Natural resource accounting can be seen as an empirical exercise in seeing how the current generation has met its needs without compromising the needs of the future generation. Prof. Kadekodi has surveyed the work on natural resource accounting in India so far, and also brought out key issues that need to be dealt with. Forest resource accounting in the Yamuna sub-basin, air emission accounting for India, water pollution accounting for India, and mineral resource accounting for Goa are cases presented in this last chapter. These case studies indicate that the environmental accounting would make a substantial difference to the estimates of income. However, continued development of case studies, theoretical research, and estimation of key parameters are needed to move ahead in this area.

This book would have been richer if Prof. Kadekodi had included one example (perhaps from his own work) of dynamic ecological modelling. Nevertheless, this multi-faceted book will be of interest to those following the Indian environmental issues, particularly policy-makers. Students and teachers of the environmental economics in India now have an excellent supplement to standard textbooks.