

## ECOLOGICAL LIMITS AND ECONOMIC DEVELOPMENT CREATING SPACE

RAMPRASAD SENGUPTA  
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Review by  
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A popular joke on environmental concerns is the following: a seemingly pompous rich looking demagogue is addressing an earth summit very loudly, "What if it is all hoax? Why then do we do and spend so much for a better future world at the cost of present?" Perhaps similar doubts have made economists required into the sphere to examine whether all this is justified in terms of efforts and resource-attention. The book *Ecological Limits and Economic Development* subtitled *Creating Space* by Ramprasad Sengupta is a very polite but adequate answer that simply has to be listened to and accepted

Professor Ramprasad Sengupta formerly the Sukhamay Chakraborti Chair Professor in Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi has made a deeply significant contribution in economics and ecological economics through writing this book. And, by way of doing it he has filled in a major hiatus lasting in the frontier of economics for long. The book is simultaneously, a meticulously detailed and logically organized empirical account, and a comprehensive theoretical envisioning of the current environmental-ecological plight of our planet. Sengupta, a la Kenneth Boulding accepted the 'spaceship' conceptualization of the planet in which life support system is ecologically bounded not only in quantity, but in terms of natural regeneration rates also, because of ecological interrelationships among the species on the one hand and of *material balance* and *entropy law* on the other. Thus, the process of destruction of nature is rendered irreversible.

From the literature over centuries, Sengupta shows that the classical, (Smith, Malthus, Ricardo, Marx), the neoclassical (Mill, Jevons, Walras, Marshall Pigou) and the modern, (Hotelling, Dasgupta and Heal, Mailler in Dasgupta et al, Baumol and Oats, Conrad and Clark) all, though had quite comprehensive understanding of scarcity of resources and its limits because of the law of diminishing returns, but fell rather short in understanding all the components of value, and how they should include properly the social costs due to the negative externalities.

The author has an additional disappointment with the Classisists because of their myopic labour theory of value (emphasizing Marx over others, p.12) that actually disregarded rent as a cost component and thus nipping nature in economics in the bud. Traversing over the Biophysical approach to ecological economics (Georgesque-Roegen, Daly, Ayres, Costanza, Christensen

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and others)<sup>2</sup>, Sengupta argued at the outset on the basis of the entire relevant literature, that even technological progress, seemingly the permanent way out according to many, was elusive as the contradictions of the social costs became increasingly reinforced by the growth and the consumerist euphoria of capitalism. While ecological economics has not yet been able to induce an integration of ecological social losses with price sufficiently, the book is a detailed endorsement of the fact that these recent approaches strongly vindicate the nature of the challenge to confront for the economists.

Nevertheless, this impeccably coherent charting of the degradation empirics with a view to derive the basis on which Sengupta in later chapters builds up his dynamic analyses, is the long awaited integration of extensive research in the environmental threats to sustainable development, in which Sengupta himself has contributed considerably over past three decades (major one being Sengupta 2001). An essential distinctive feature of the present book is that it has clearly pointed out the distinctions between conventional economics, ecological economics and environmental economics and the inadequacies therein to come to grips with the problem for efficacious policy interventions.

The book is an enthralling voyage in the deep logic, of mismatches that arose from a shift from renewable to exhaustible resources for energy, required by the economics of large scale that has grabbed the world during the last three centuries, (dangerously so in the last 100 years according to Sengupta) and hence, in the deeper implications, of perennial wrongs inflicted consequently on nature leading to an eventual danger against sustainability of the ongoing development. The remarkable distinctive characteristic of the book is that it has woven its fabric very consistently in successive logical order.

Sengupta starts with setting his primitives derived from the collective human wisdom regarding ecological life support system (ecosystems) of earth that constitute the constraints which make any disproportionate growth incompatible with the ecologically 'givens' - earth the 'spaceship' having to abide by the two fundamental laws of thermodynamics.

Such a growth process in reality has been imposing time-accumulative negative externalities and thus considerable social costs, on the scarce composite resource environment, but remaining ignored. Hence terrestrial environment over an indiscriminate growth and consumerist process inflicted degradation overhangs building up over time toward the natural resilience limit. Environment, as Sengupta noted in the first chapter only, is a complex of multiple of components, each having its own complicated universe, that comprise the life support system on earth. And hence euphoric lopsided studies of growth in terms of conventional economics (classical and neoclassical) fall far short of an integrated vision needed for environmental prudence.

At the initial stage Sengupta has given us a very meaningful distinction between economics and ecology skimming over etymology and contents of the two disciplines. The book locates the root in the avoiding attitude of the theorists in economics and not so much of the ecologists as it was primarily the focus of the economists to define value comprehensively and as it was them who correctly started with scarcity of resources as their basic point of departure. 'One possible explanation of neglect of such social costs due to environmental externalities and social loss due to growth may be that the pre-analytic vision of economic theory is assuming the

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<sup>2</sup> All the references mentioned in parentheses are available at the end of the book.

environmental capacity of the nature in supplying resources and absorbing waste to be still large enough relative to the requirement of economic growth(Chapter2, p.20).'

The book in the initial four chapters mainly discussed the conceptual preliminaries and methodological insufficiencies, given the nature of the imminent danger, articulately established with facts by the author. Next two chapters make detailed analysis of 'the environmental pressure on resources and ecosystem capacity as created by (a) growth of population and (b) the scale of an economy.' As a result Sengupta argues here that international trade, instead of being an 'engine of growth' as often claimed in the literature, turned out to be a vanguard of depletion of nature at the same time. The responsibility Sengupta eventually put down to the incessant non-satiety of profit-hungry aspect of capitalism. This is, however, a little tautological again as capitalism in post socialism era has turned out to be the omniscient! The need for turning capitalism into a non-anthropocentric life-support system as imperative does not seem to have been made very emphatically.

Essentially from here the book takes off into the microeconomic and macroeconomic visions of large scale growth which look rather thin for comprehending the problem of sustainability as posed by the environmental and ecological economics. This is where, by way of emphasizing the role of ecology economics interdisciplinary inquiry, the book aptly established the need for a paradigm shift. To this end Sengupta finally has taken ecology-environment-economy interaction deep inside the disciplines towards creating new space for analytical investigations. And this he does presenting the relevant empirics in a logical order in each of his chapters that, thus, makes his point fairly expansively. A novel inclusion here is the utilization of the recent concept of 'ecological footprints', the deep implications of which are explained mainly in chapter 5. In the subsequent ten chapters (Chapter 6 -15), the author not only discusses the depth and extent of the ecosystem challenges, but attempts to confront them himself by suggesting the directions to be taken in terms of rich but simple dynamical models on the endogeneity of the terrestrial ecosystem. One extremely valuable contribution is the detailed empirical account of the resource stocks of water, forests, coal, oil and natural gas and so on, especially in India.

Quite consistently the situation now is very akin to the plight, discovered by Charles Darwin, of all the living species to cope with the problem of becoming the fittest for survival, that leads them to 'natural selections' and 'adaptations'. To this end the main escape route conventionally and popularly had been the technological revolutions and knowledge. However, Sengupta's narration clearly shows us how by using the wrong basis of consumerist approach to life in search of effective demand to salvage from crises of profits (misplaced Keynesianism?), the human's 'natural' selections turned out to be thoroughly adverse in this respect also (the shift to non-renewable, for example). There is no 'hoax' escape route whatsoever! Sengupta has given a consistent armory of policies from which building up of a long view of sustainable development looks feasible.

The book has broken open a major new ground on which salvage through adequately interdisciplinary ecological economics looks plausible, and requires sizable further research. Yet, as pointed out above, the destructive role of capitalism in its ongoing form is understated. The point needs deeper attention because of the fact that a very effective set of learned proponents believes that capitalism being the vanguard of technological innovation still possesses the key to survival ( Michael Rothschild in his *Bionomics*, for example).

The book implicitly asks for a change in the structure of capitalism towards general benefit of life on earth. The task of working out the analytical implications of a co-evolutionary approach, argued for by Norgaard long ago, still remained unaddressed. Economists have been hoodwinking these crucial aspects for quite some time now. For the purpose at hand, an adequate policy relevant price equation is needed. Sengupta has hinted at a new direction in the scope of integrating Sraffian measure of value in the ecosystem approach. His attempts here properly situated ecology in economic (dis-)equilibria. This is definitely a welcome 'creating space' from the 'ecological limits', of economic development. The person he missed in this respect is Charles Perrings who attempted such a breakthrough, though insufficient, in the nineteen eighties.

Any serious student, from Masters to Doctoral levels, and all teachers, of environmental and ecological economics will benefit exceedingly from this painstakingly elaborate work published with care that it deserves, by the Oxford University Press. It will even benefit the policy makers, much for a better comprehension of their way ahead. Keeping the technicalities aside, the book also has a popular level appeal for all who cares for life on earth.

#### **References:**

Rothschild, Michael, (1990), *BIONOMICS The Inevitability of Capitalism*, Henry Holt and Company New York.

Norgaard, R.B. (1994), *Development Betrayed: The End of Progress and a Coevolutionary Revisioning of the Future*, Routledge, London.

